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SEARS

OWNERS MANUAL

MODEL NO.
917.254420
917.254421

CRAFTSMAN

GT 20HP TWIN 6 SPEED - 44'' MOWER GARDEN TRACTOR

Caution:
Read and Follow All Safety Rules And Instructions Before Operating This Equipment

Assembly
Operation
Maintenance
Repair and Adjustment
Repair Parts

Sears, Roebuck and Co., Chicago, IL 60684 U.S.A.

SAFETY RULES

1. *Know the controls and how to stop quickly. READ THIS OPERATOR'S MANUAL and instructions furnished with attachments.*
2. *Do not allow children to operate the machine. Do not allow adults to operate it without proper instruction.*
3. *Do not carry passengers. Do not mow when children and others are around.*
4. *Always wear substantial footwear. Do not wear loose fitting clothing that could get caught in moving parts.*
5. *Keep your eyes and mind on your tractor, mower and the area being cut. Do not let other interests distract you.*
6. *Do not attempt to operate your tractor or mower when not in the drivers seat.*
7. *Always get on or off your tractor from the operator's left hand side.*
8. *Clear the work area of objects (wire, rocks, etc.) which might be picked up and thrown.*
9. *Disengage all attachment clutches before attempting to start the engine.*
10. *Disengage power to attachments and stop the engine before leaving the operator's position.*
11. *Disengage power to mower, stop the engine and disconnect spark plug wire(s) from spark plug(s) before cleaning, making an adjustment or repair. Be careful to avoid touching hot muffler or engine components.*
12. *Disengage power to attachments when transporting or not in use.*
13. *Take all possible precautions when leaving the vehicle unattended. Disengage the power-take-off, lower the attachments, shift into neutral, set the parking brake, stop the engine and remove the key.*
14. *Do not stop or start suddenly when going [illegible] or downhill. Mow up and down the face of slopes (not greater than 15°); never across the face. Refer to page 51.*
15. *Reduce speed on slopes and make turns gradually to prevent tipping or loss of control. Exercise extreme caution when changing direction on slopes.*
16. *While going up or down slopes, place Gear Shift Control Lever in 1st gear position to negotiate the slope without stopping.*
17. *Never mow in wet or slippery grass, when traction is unsure or at a speed which could cause a skid.*
18. *Stay alert for holes in the terrain and other hidden hazards. Keep away from drop-offs.*
19. *Do not drive too close to creeks, ditches and public highways.*
20. *Exercise special care when mowing around fixed objects in order to prevent the blades from striking them. Never deliberately run tractor or mower into or over any foreign objects.*
21. *Never shift gears until tractor comes to a stop.*
22. *Never place hands or feet under the mower, in discharge chute or near any moving parts while tractor or mower are running. Always keep clear of discharge chute.*
23. *Use care when pulling loads or using heavy equipment.*
    a. *Use only approved drawbar hitch points.*
    b. *Limit loads to those you can safely control.*
    c. *Do not turn sharply. Use care when backing.*
    d. *Use counterweight or wheel weights when suggested in the owner's manual.*
24. *Watch out for traffic when crossing or near roadways.*
25. *When using any attachments, never direct discharge of material toward bystanders nor allow anyone near the vehicle while in operation.*
26. *Handle gasoline with care - it is highly flammable.*
    a. *Use approved gasoline containers.*
    b. *Never remove the fuel cap of the fuel tank or add gasoline to a running or hot engine or an engine that has not been allowed to cool for several minutes after running. Never fill tank indoors, always clean up spilled gasoline.*
    c. *Open doors if the engine is run in the garage - exhaust fumes are dangerous. Do not run the engine indoors.*
27. *Keep the vehicle and attachments in good operating condition, and keep safety devices in place and working.*
28. *Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.*
29. *Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.*
30. *To reduce fire hazard, keep the engine free of grass, leaves or excessive grease. Do not clean product while engine is running.*
31. *Except for adjustments; DO NOT operate Engine if air cleaner or cover directly over carburetor air intake is removed. Removal of such part could create a fire hazard.*
32. *Do not operate without a muffler or tamper with exhaust system. Damaged mufflers or spark arresters could create a fire hazard. Inspect periodically and replace if necessary.*
33. *The vehicle and attachments should be stopped and inspected for damage after striking a foreign object and the damage should be repaired before restarting and operating the equipment.*
34. *Do not change the engine governor settings or overspeed the engine; severe damage or injury may result.*
35. *When using the vehicle with mower, proceed as follows;*
    a. *Mow only in daylight or in good artificial light.*
    b. *Shut the engine off when unclogging chute.*
    c. *Check the blade mounting bolts for proper tightness at frequent intervals.*
36. *Do not operate the mower without the deflector shield in place.*
37. *Disengage power to mower before backing up. Do not mow in reverse unless absolutely necessary and then only after careful observation of the entire area behind the mower.*
38. *Under normal usage the grass catcher bag material is subject to deterioration and wear. It should be checked frequently for bag replacement. Replacement bags should be checked to ensure compliance with the original manufacturer's recommendations or specifications.*

LOOK FOR THIS SYMBOL TO POINT OUT IMPORTANT SAFETY PRECAUTIONS. IT MEANS -- ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED.

CAUTION: **LOOK FOR THIS WORD TO POINT OUT IMPORTANT EQUIPMENT PRECAUTIONS.**

WARNING: This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. See your Sears Authorized Service Center for spark arresters. Refer to Repair Parts page 32 for part number.

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CONGRATULATIONS on your purchase of a Sears GT 20HP Garden Tractor. It has been designed, engineered and manufactured to give you the best possible dependability and performance.
Should you experience any problem you cannot easily remedy, please contact your nearest Sears Service Department. We have competent, well-trained technicians and the proper tools to service or repair this unit.

Please read and retain this manual. The instructions will enable you to assemble and maintain your Tractor properly. Always observe the "SAFETY RULES".

MODEL NUMBER _____

SERIAL NUMBER _____

DATE OF PURCHASE _____

THE MODEL AND SERIAL NUMBERS WILL BE FOUND ON THE MODEL PLATE ATTACHED TO THE FENDER.

YOU SHOULD RECORD BOTH SERIAL NUMBER AND DATE OF PURCHASE AND KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

MAINTENANCE AGREEMENT

A Sears Maintenance Agreement is available on this product. Contact your nearest Sears store for details.

YOUR NEW GT 20 HP GARDEN TRACTOR FEATURES...

CRAFTSMAN 20 HP TWIN–CYLINDER ENGINE--cool-running performance and long life with plenty of power to take on a variety of yard, gardening or snow removal tasks.

ALL GEAR TRANSMISSION--six speeds forward, two reverse speeds--to let you select the proper speed for the terrain and the job. Automotive--type differential helps guard against turf scuffing.

CONTROL PANEL--with Throttle, Choke, Light Switch, Hour Meter, Ignition Switch, Indicator Lights, Parking Brake Lever and Clutch Switch--conveniently grouped for ease of use.

ATTACHMENT VERSATILITY--handles a large variety of Sears Yard and Garden Tractor Attachment including . . .
44inch mower with three "high-lift" blades to stand grass up for level cuts.
OTHER SOIL TILLAGE ATTACHMENTS including Plow, Disc Harrow, Drag Harrow, Cultivator, and 8 HP Tiller.
46 INCH DOZER BLADE levels or moves dirt and gravel or removes snow.
40 INCH SNOW BLOWER handle wet, heavy powdery snow with ease.
REAR GRADER AND LEVELER BLADE levels new yards, grading lanes, driveways and parking areas.

CUSTOMER RESPONSIBILITIES

Read and observe the safety rules. Always use care when using your tractor. Keep away from moving parts. DO NOT work on your tractor with engine running. Always keep your tractor and mower clean. Follow a regular schedule in maintaining, caring for and using your tractor. A well cared for tractor will run and last longer. Follow the instructions under "Maintenance" and "Storage" sections of this Owner's Manual.

LIMITED THREE YEAR WARRANTY ON ELECTRIC START RIDING EQUIPMENT

For three years from date of purchase, when this riding equipment is maintained, lubricated, and tuned up according to the operating and maintenance instruction in the owner's manual, Sears will repair free of charge any defect in material of workmanship in this electric start riding equipment.

This warranty excludes blade(s), blade adapter(s), spark plug(s), air cleaner and belt(s), which are expendable and become worn during normal use.

This warranty does not cover:
- *Tire replacement or repair caused by punctures from outside objects (such as nails, thorns, stumps, or glass); and*
- *repairs necessary because of operator abuse or negligence, including the failure to maintain the equipment according to instructions contained in the owner's manual; and*
- *riding equipment used for commercial or rental purposes.*

FULL 90-DAY WARRANTY ON BATTERY

For 90 days from the date of purchase, if any battery included with this riding equipment proves defective in material or workmanship and our testing determines the battery will not hold a charge, Sears will replace the battery at no charge.

WARRANTY SERVICE IS AVAILABLE BY CONTACTING THE NEAREST SEARS SERVICE CENTER/DEPARTMENT IN THE UNITED STATES. This warranty applies only while this product is in use in the United States.

This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

SEARS, ROEBUCK and CO., D/698-731A, Sears Tower, Chicago, Il 60684

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ASSEMBLY

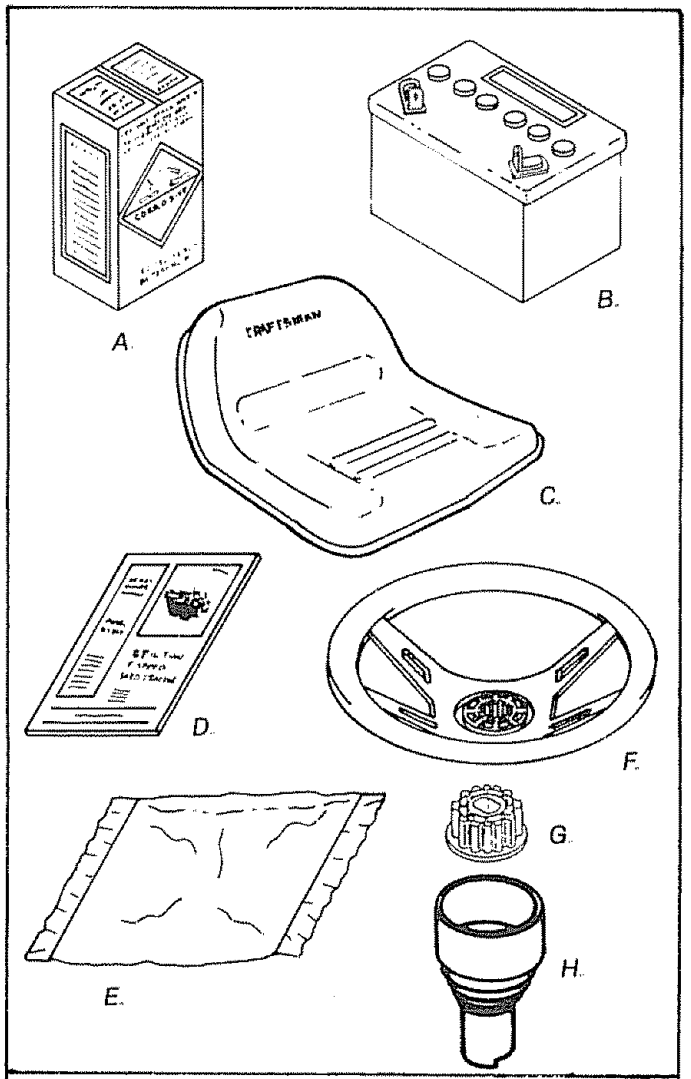
Know Your Tractor

READ THIS OWNER'S MANUAL BEFORE OPERATING YOUR GARDEN TRACTOR. If you understand the machine and its operation, you will achieve efficient and peak performance. While reading the manual, compare the illustrations with your Garden Tractor to familiarize yourself with the location of various controls and adjustments. Study the operating instructions and safety precautions thoroughly to insure proper functioning of your Garden Tractor and to prevent injury to yourself and others. Be sure to pay strict attention to all notes and cautions; they are included for your safety. Save this manual for future reference.

Unpacking Instructions

1. *Remove items from carton. The box contains the items shown below.*
2. *Cut down four corners of the carton with a utility knife and fold down sides.*
3. *Remove banding holding mower deck to skid.*
4. *Lower mower deck to floor and remove packing.*
5. *Remove banding holding tractor to skid.*
6. *Disengage Parking Brake.*
7. *Carefully guide the tractor backwards off the skid.*

The operation of any tractor can result in foreign objects thrown into the eyes, which can result in severe eye damage. Always wear safety glasses or eye shields before starting your tractor and while mowing. We recommend Wide Vision Safety Mask for over the spectacles or standard safety glasses, available at Sears Retail or Catalog Stores.



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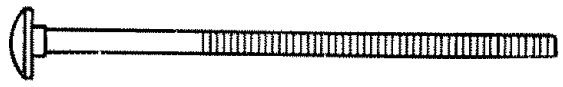
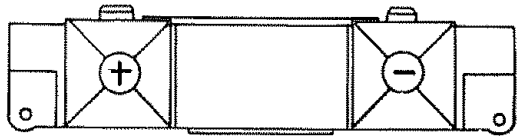
B. Battery
C. Seat
D. Owner's Manual
E. Parts Bag
F. Steering Wheel
G. Steering Adapter
H. Steering Sleeve

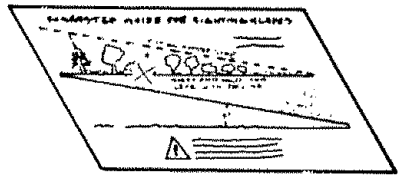
Parts Bag Contents Not Shown Full Size:



(2) Battery Carriage Bolts - 1/4 - 20 x 7 - 1/2

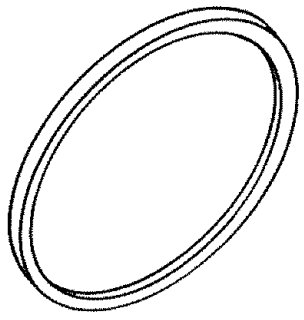


Terminal Guard

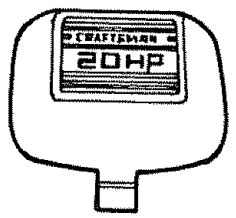


15° Slope Instruction Sheet

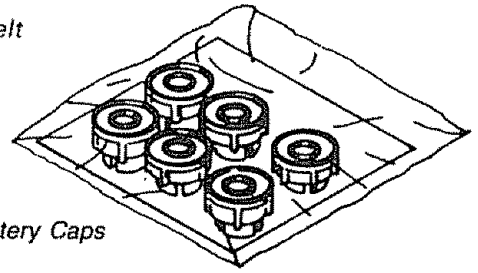
(2) Keys



V-Belt



Steering Wheel Cap



(6) Battery Caps

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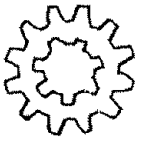
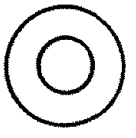
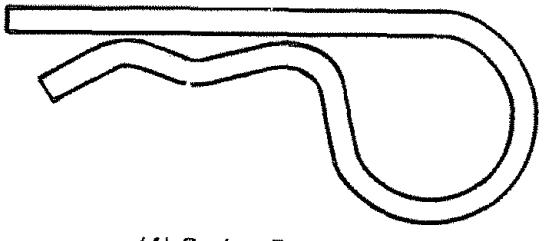
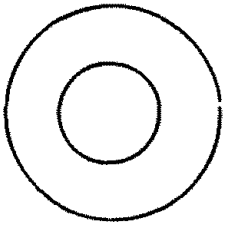
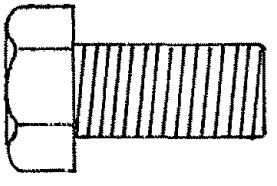
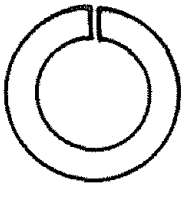
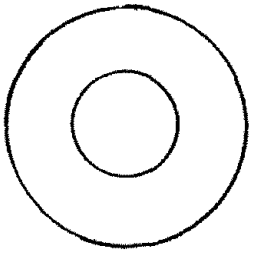
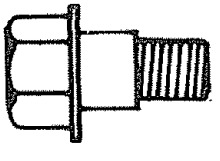
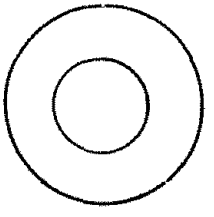
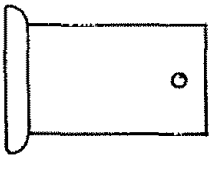
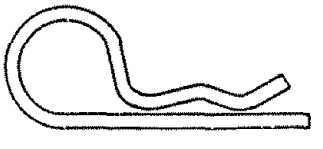
ASSEMBLY LOCATION	PARTS BAG CONTENTS SHOWN FULL SIZE
BATTERY	 (2) Lockwasher, 1/4 Int/Ext Tooth (2) Wing Nut - 1/4 - 20
BATTERY TERMINALS	(2) Hex Nut, 1/4 - 20 (2) Hex Bolt, 1/4 - 20 x 3/4 (2) Lockwasher 1/4  (2) Washer 9/32 x 5/8 x 16 Ga.
SUSPENSION ARMS	 (4) Spring Retainer  (4) Washer 17/32 x 1 - 1/16 x 13 Ga.
SEAT	 (1) Hex Bolt 1/2 - 13 x 1 Grade 5  (1) Lockwasher 1/2  (1) Washer 17/32 x 1-3/16 x 12 Ga.  (1) Shoulder Bolt  (1) Washer 15/32 x 1 x 16 Ga.
GAUGE WHEELS	 

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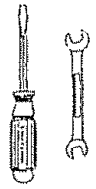
ASSEMBLY

To assemble and adjust your tractor you will need:



(2) 7/16" wrenches
(1) 3/4" wrench
(1) 9/16" wrench
(2) 1/2" wrenches
Tire Pressure Gauge
Screwdriver
Utility Knife

NOTE: RIGHT HAND (R.H.) AND LEFT HAND (L.H.) ARE DETERMINED FROM OPERATOR'S POSITION WHILE SEATED ON THE TRACTOR.

WEAR EYE AND FACE SHIELD.

WASH HANDS OR CLOTHING IMMEDIATELY IF ACCIDENTALLY IN CONTACT WITH ELECTROLYTE.

DO NOT SMOKE, FUMES FROM CHARGED ELECTROLYTE ARE EXPLOSIVE.

NOTE: THIS TRACTOR IS EQUIPPED WITH AN OPERATOR PRESENCE SENSING SWITCH. ANY ATTEMPT BY THE OPERATOR TO LEAVE THE SEAT WITH THE ENGINE RUNNING AND ATTACHMENT CLUTCH ENGAGED WILL SHUT OFF THE ENGINE.

1. *Prepare Battery*

READ INSTRUCTIONS INCLUDED WITH THE BATTERY CAPS FOUND IN BAG OF PARTS. ALWAYS WEAR GLOVES, CLOTHING AND GOGGLES TO PROTECT YOUR HANDS, SKIN AND EYES.

a. *Fill and charge battery (before installing).* NOTE: SEE DETAILED INSTRUCTIONS PACKAGED WITH BATTERY VENT CAPS FOUND IN BAG OF PARTS.
b. *Fill battery with battery acid to bottoms of tubes in cells (Fig. 1).* NOTE: DO NOT OVERFILL. OVERFILLING WILL RESULT IN DAMAGE TO TRACTOR
c. *Check level of battery acid after 30 minutes. Add additional battery acid if necessary.* NOTE: TIGHTEN VENT CAPS SECURELY
d. *Charge battery at the rate of six amperes for one hour.*
e. *Neutralize excess battery acid for disposal by adding it to four inches of water in a five gallon plastic container. Stir with a wooden or plastic paddle while adding baking soda until the addition of more soda causes no more foaming.*

2. *Install Seat*

Seat position should be adjusted forward or backward so that the operator can comfortably reach Clutch/Brake Pedal and safely operate the tractor (Fig. 2).

a. *Place seat on seat pan. Screw hex head machine screw, lockwasher and flat washer into seat (Fig. 2). Screw shoulder bolt and flat washer into seat (Fig. 2). Machine screw, shoulder bolt and washers found in bag of parts (shown full size on page 6).*
b. *Tighten shoulder bolt and flat washer using a 1/2" wrench.*
c. *Tighten hex bolt (adjustment bolt), lockwasher and flat washer using a 3/4" wrench.*
d. *Place seat in operating position. Sit on the seat and press clutch/brake pedal all the way down. If operating position is not comfortable, adjust seat.*
e. *To adjust: Raise seat. Loosen adjustment bolt. Slide seat to desired position. Tighten adjustment bolt securely.*

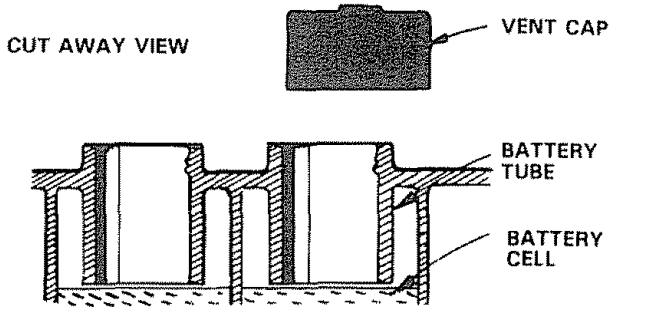


FIGURE 1

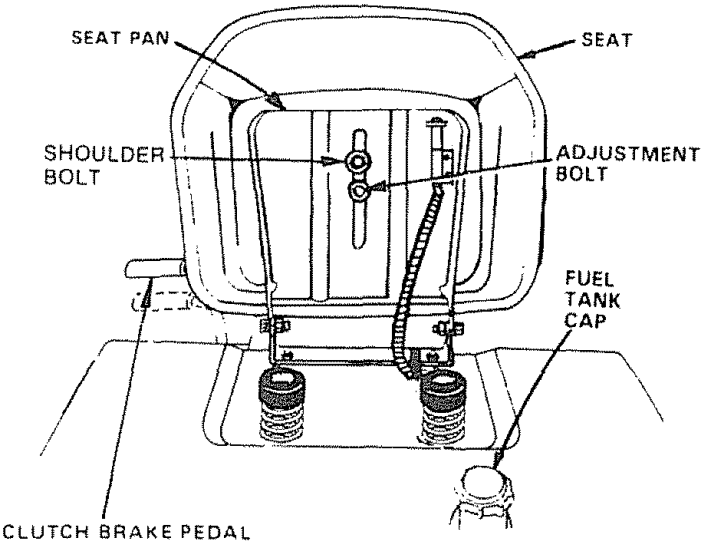


FIGURE 2

THE MACHINE SCREW-LOCKWASHER-FLAT WASHER ASSEMBLY MUST BE TIGHTENED SECURELY TO PREVENT MOVEMENT OF SEAT.

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ASSEMBLY

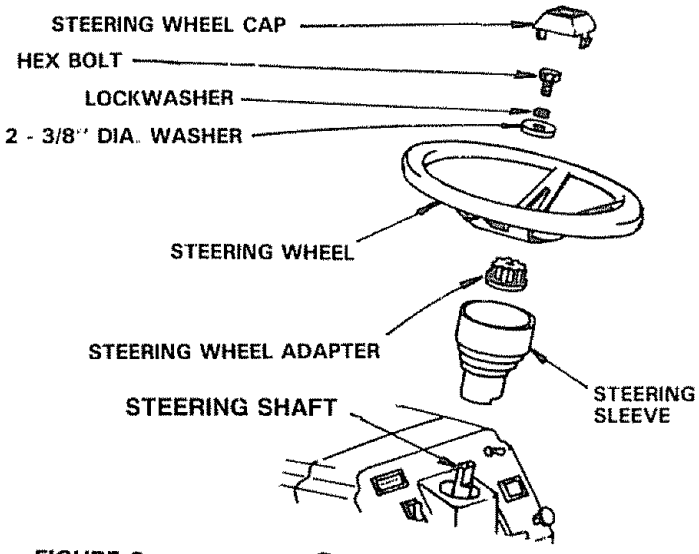


FIGURE 3

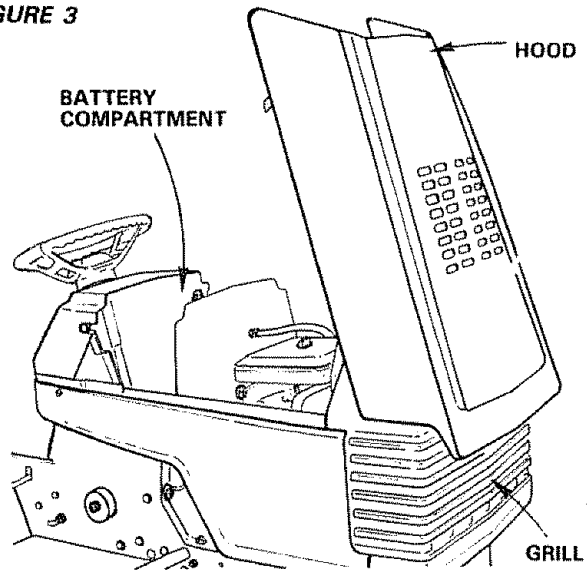


FIGURE 4

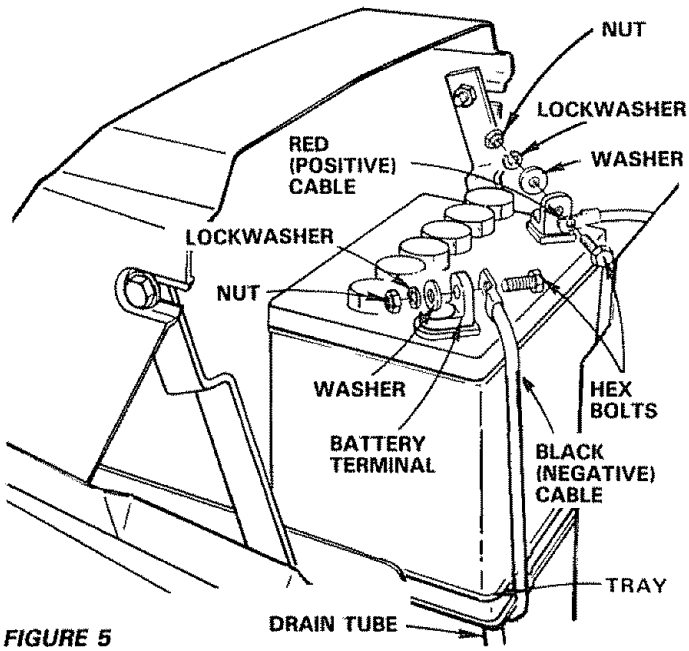
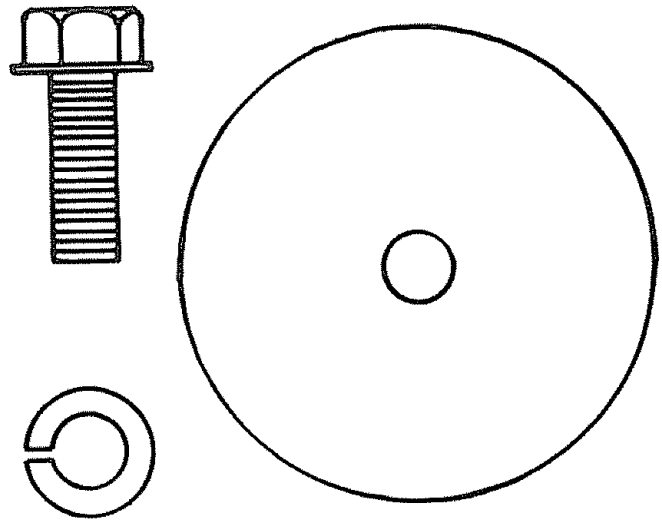


FIGURE 5

3. Install Steering Wheel

NOTE: POSITION FRONT WHEELS FORWARD.

a. Use a 9/16'' wrench to remove hex bolt, lockwasher and 2-3/8'' diameter washer (shown full size below) from steering column (Fig. 3).



b. Position sleeve over steering shaft assembly. Position steering wheel over steering wheel adaptor.

c. Secure steering wheel to steering shaft using hex bolt, lockwasher and 2-3/8'' diameter washer (Fig. 3)

d. Snap steering wheel cap in place on steering wheel. Steering wheel cap found in bag of parts.

4. Check Tires

Reduce tire pressure to 14 PSI in front and 10 PSI in rear tires. (Tires were overinflated for shipping purposes).

DO NOT SHORT BATTERY TERMINALS.

BEFORE INSTALLING BATTERY, REMOVE METAL BRACELETS, WRISTWATCH BANDS, RINGS, ETC.

5. Install Battery

a. Lift hood from rear sides (Fig. 4).

b. Remove tape from plastic tray. Make sure drain tube (Fig. 5) is fastened to drain hole in battery tray and battery tray is positioned in hole of battery support.

c. Place battery in plastic tray (Battery terminals to front of tractor)(Fig. 5).

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POSITIVE TERMINAL MUST BE CONNECTED FIRST TO PREVENT SPARKS FROM ACCIDENTAL GROUNDING.

d. Connect RED battery cable to positive (+) battery terminal with hex bolt, flat washer, lockwasher and hex nut (shown full size on page 6) found in bag of parts (Fig. 5) Tighten securely with two 7/16" wrenches.

e. Connect BLACK ground cable to negative (-) battery terminal with remaining hex bolt, flat washer, lockwasher and hex nut (shown full size below) found in bag of parts (Fig. 5). Tighten securely.

NOTE: IF YOU HAVE A WEAK BATTERY, SEE "STARTING YOUR TRACTOR WITH A WEAK BATTERY" PAGE 21.

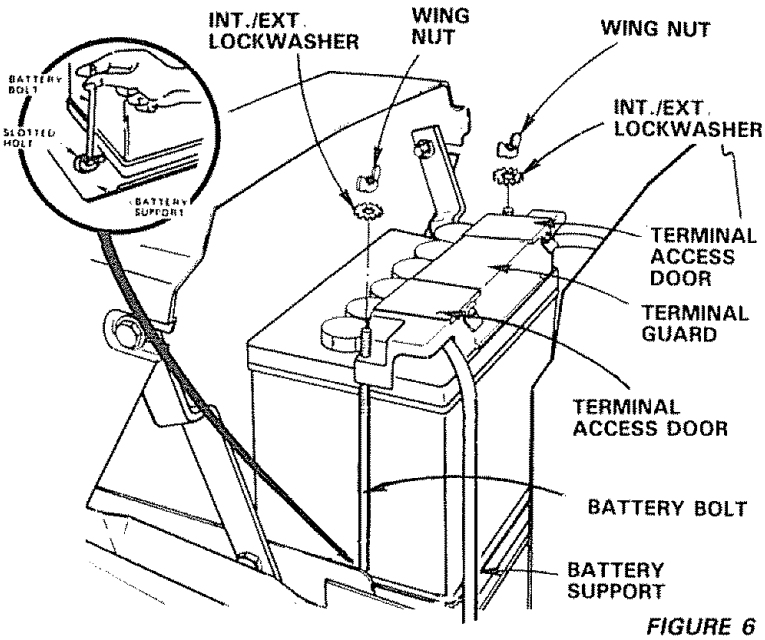
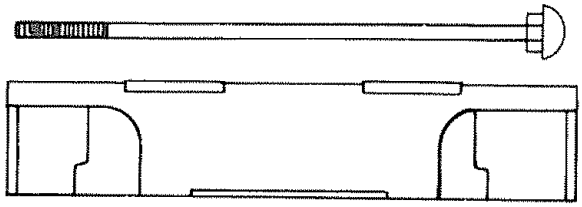


FIGURE 6

f. Using the slotted hole on one side of the battery support (Fig. 6) insert one battery bolt, head of bolt down. Fasten the battery bolt to the terminal guard using int./ext. lockwasher and wing nut (shown full size on page 6) as shown in Fig. 6.

g. Assemble the remaining battery bolt to other side of battery support and fasten terminal guard to it with remaining int./ext. lockwasher and wing nut. Tighten wing nuts securely by hand (Fig. 6).



h. Remove Plastic on tractor hood and close.

NOTE: USE TERMINAL ACCESS DOORS (FIG. 6) FOR:
1. INSPECTION FOR SECURE CONNECTIONS (TIGHTEN HARDWARE)
2. INSPECTION FOR CORROSION
3. TESTING BATTERY
4. JUMPING (IF REQUIRED)
5. CHARGING (IF REQUIRED)

KEEP TERMINAL ACCESS DOORS CLOSED WHEN NOT IN USE.

DO NOT START ENGINE UNTIL MOWER SUSPENSION BRACKET HAS BEEN RELEASED. SEE MOWER DRIVE BELT INSTALLATION, PAGE 10.

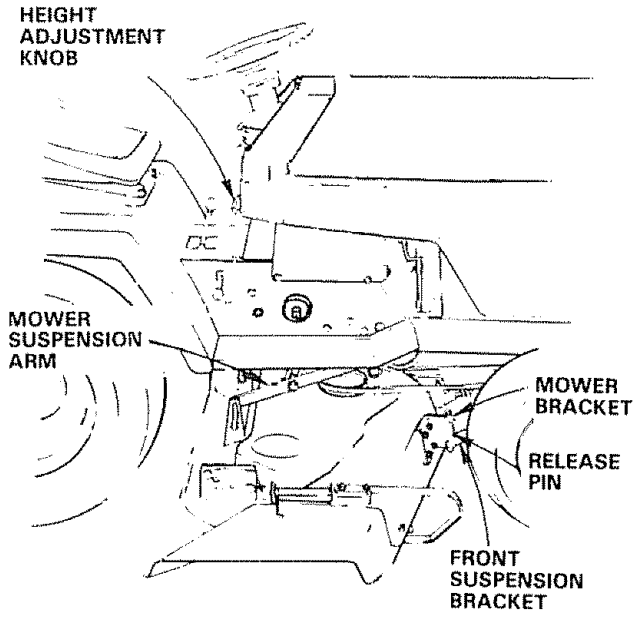


FIGURE 7

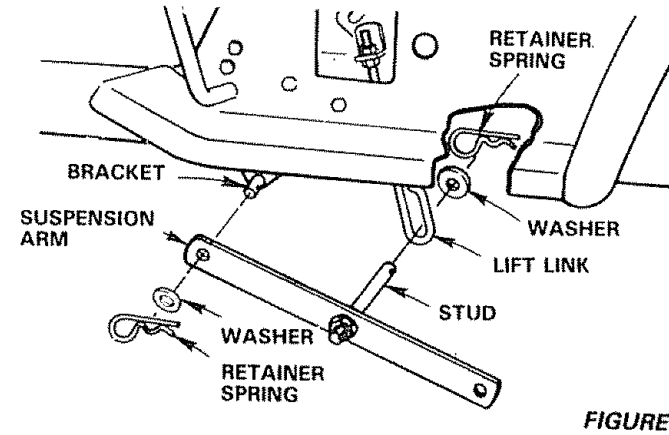


FIGURE 8

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ASSEMBLY

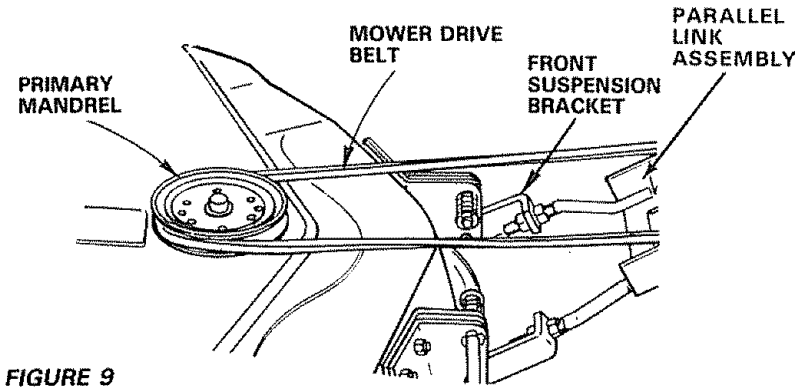

FIGURE 9

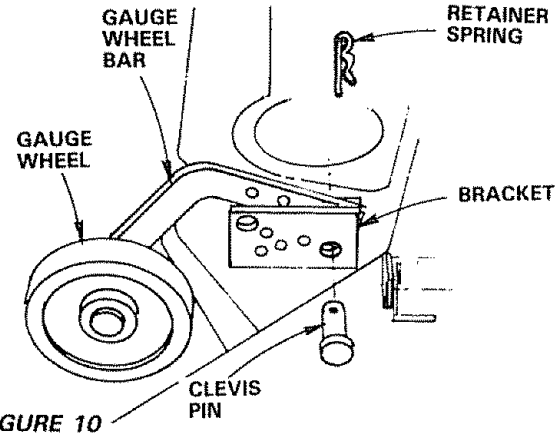

FIGURE 10

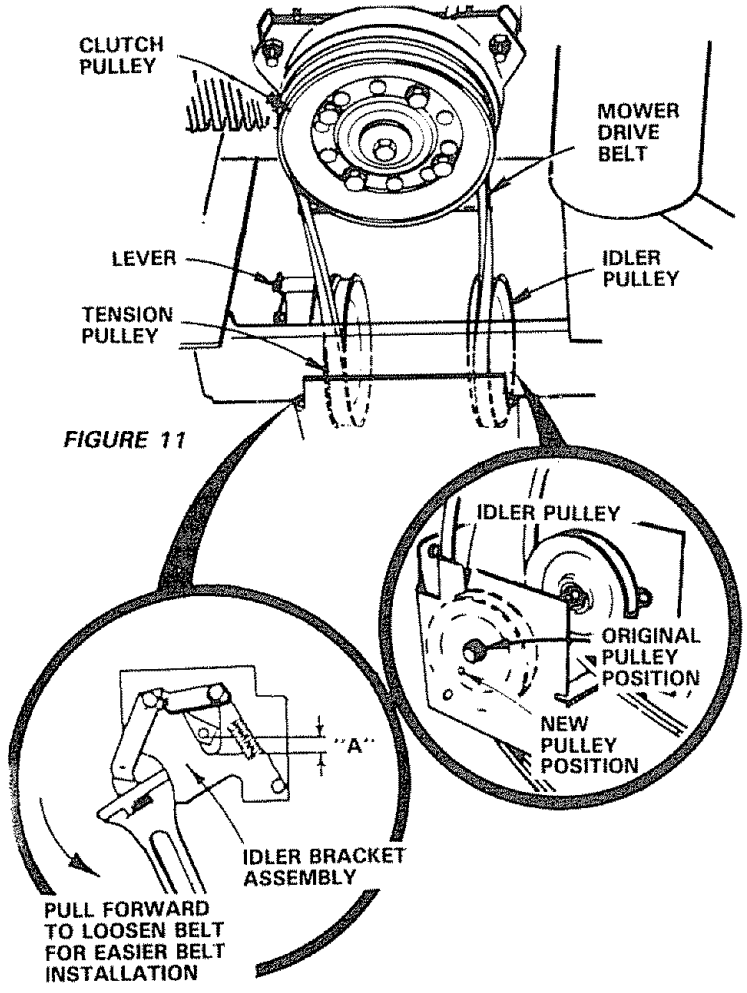

FIGURE 11

6. Mower Installation

a. Remove band from mower suspension bracket.
b. Remove banding from suspension arms (Fig. 7) and gauge wheels. Set gauge wheels aside for later assembly.
c. Slide mower under tractor, deflector to R.H. side.
d. Slide front suspension brackets into mower brackets. Retain with release pins (Fig. 7).
e. Turn height adjustment knob counterclockwise (↶) until it stops (Fig. 7)
f. Push attachment lift switch to lower mower suspension links (page 11).
g. Slide studs through lift links on both sides of tractor (Fig 8). Retain with washers and retainer springs (shown full size on page 6) found in bag of parts.
h. Place the suspension arms on brackets on both sides of frame (Fig. 8). Retain with washers and retainer springs found in bag of parts.
i. Turn height adjustment knob (Fig. 7) clockwise (↷) to remove slack from mower suspension.
j. Roll drive belt over primary mandrel (Fig. 9)
k. Insert gauge wheel bar into bracket. Retain with clevis pin and retainer spring (shown full size on page 6) found in the bag of parts (Fig. 10). Repeat for other gauge wheel

7. Mower Drive Belt Installation

a. Remove hood and grill (See page 23).
b. Place mower drive belt over clutch pulley and under idler pulley and tension pulley (Fig. 11). NOTE: PULL LEVER FORWARD TO SWING TENSION PULLEY FOR BELT CLEARANCE. Make sure narrow "V" side of belt is engaged in each pulley (Fig. 11).
c. Pull mower drive belt over front mower suspension bracket (Fig. 7).
d. Replace hood and grill.

8. Mower Drive Belt Adjustment

a. Lower mower using attachment lift switch.
b. If dimension "A" on idler bracket assembly measures 1/4" or less, mower drive belt must be adjusted (Fig. 11-Inset).
c. Turn ignition switch off and remove mower drive belt.
d. Using two 9/16" wrenches, remove bolt, (2) washers, lockwasher and nut from idler pulley (Fig. 11-Inset) (original position).
e. Place v-belt and idler pulley in "NEW" pulley position (Fig. 11-Inset). Replace bolt, (2) washers, lockwasher and nut. Tighten securely.
f. Check v-belt for proper installation on all pulley grooves.

9. Check the Cutting Level

The blade housing was set at the factory to cut level. After mowing a short distance, look at the area that was cut. If the blade housing cuts uneven; see the instructions on "Side-to-Side And Front-to-Rear Mower Adjustment" (page 23)".

10. Final Assembly

a. Make sure all fasteners are tight.
b. Read and follow the operation instructions (page 11). Know the location and purpose of all controls.
c. Check oil and gasoline (page 12) before starting the tractor

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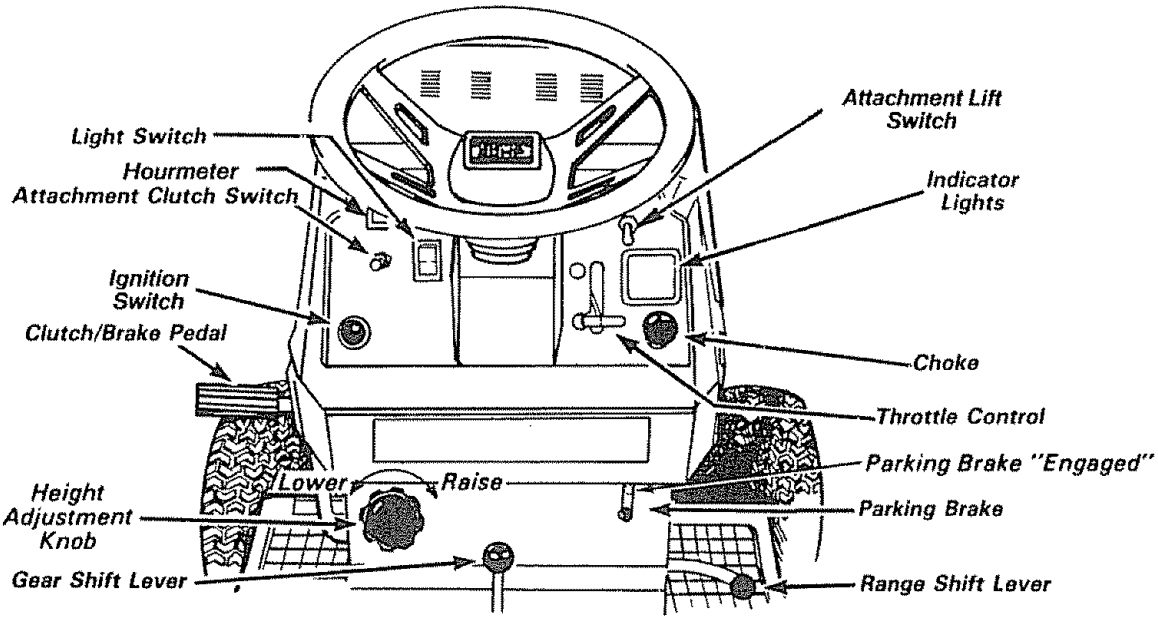
KNOW YOUR TRACTOR

READ THIS OWNER'S MANUAL BEFORE OPERATING YOUR GARDEN TRACTOR. If you understand the machine and its operation, you will achieve efficient and peak performance. While reading the manual, compare the illustrations with you Garden Tractor to familiarize yourself with the location of various controls and adjustments. Study the operating instructions and safety precautions thoroughly to insure proper functioning of your Garden Tractor and to prevent injury to yourself and others. Be sure to pay strict attention to all notes and cautions; they are included for your safety. Save this manual for future reference.



THROTTLE CONTROL: *Use the throttle control to increase or decrease the speed of the engine.*

ATTACHMENT CLUTCH SWITCH: *Pull switch out and up to engage attachment. There will be an engine hesitation as the clutch engages.*

ATTACHMENT LIFT SWITCH: *Use the attachment lift switch to raise and lower the attachment mounted to your tractor.*

LIGHT SWITCH: *Turns on and off the headlights.*

CHOKE: *To start a cold engine, pull choke out to engage*

CLUTCH/BRAKE PEDAL: *The pedal has 2 functions: a clutch and a brake. To engage the brake push the pedal down completely.*

HEIGHT ADJUSTMENT KNOB: *Use the height adjustment knob to adjust the mower height. With attachment lift lever in the full "UP" position, turn clockwise (↷) to raise mower and counterclockwise (↶) to lower mower.*

GEARSHIFT: *Press the clutch/brake pedal down firmly and move gear shift lever to desired speed.*

IGNITION: *Place key in ignition and turn to the right to start.*

HOURMETER: *Indicates the number of hours of operation.*

INDICATOR LIGHTS: *"DEPRESS FOOT PEDAL" indicates that the clutch/brake pedal must be depressed before engine will start. "DISENGAGE ATTACHMENT" indicates that the attachment must be disengaged before the engine will start. "CHECK OIL" is a low oil pressure warning light. "BATTERY DISCHARGING" indicates there is insufficient battery charging.*

PARKING BRAKE LOCK: *To set the parking brake, push the clutch/brake pedal completely forward. Place the parking brake lever in "Engaged" position and release pressure from pedal. Clutch/brake pedal will remain in brake position.*

RANGE SHIFT LEVER: *The Hi-Lo range shift lever gives you the versatility of 6 speed selections: Lo 1, 2, 3, and Hi 1, 2, 3.*

IMPORTANT

IF "CHECK OIL" LIGHT COMES ON WHILE ENGINE IS RUNNING, SHUT TRACTOR OFF IMMEDIATELY. RUNNING ENGINE WITH THIS LIGHT ON CAN CAUSE SEVERE ENGINE DAMAGE. REFER TO TROUBLESHOOTING, PAGE 25.

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OPERATION

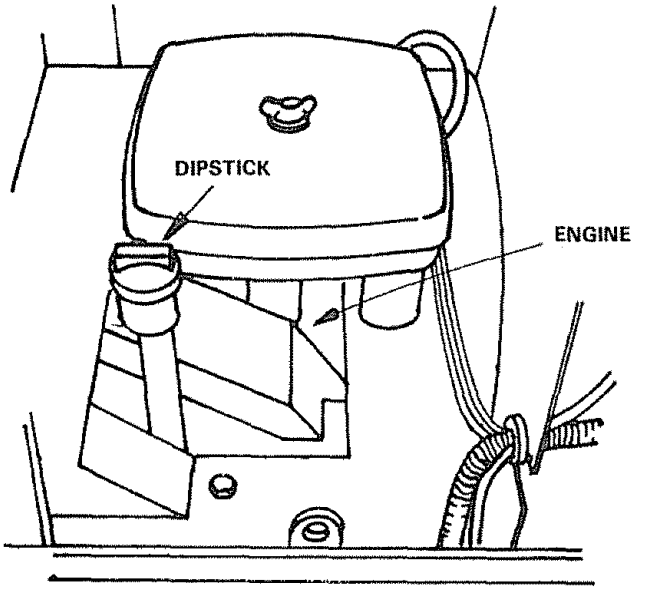

FIGURE 12

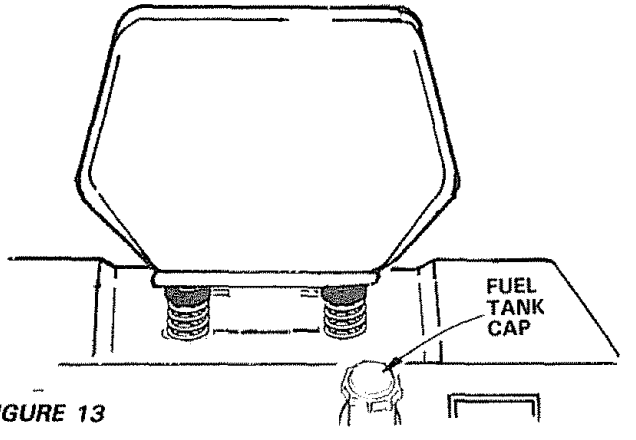

FIGURE 13

1. Stopping Your Tractor

NOTE: REMOVE KEY WHEN LEAVING TRACTOR TO PREVENT UNAUTHORIZED USE.

a. Push clutch/brake pedal (page 11) into full "BRAKE position.

b. Place parking brake (page 11) in "ENGAGED" position and release pressure from clutch/brake. Pedal should remain in "BRAKE" position. NOTE: MAKE SURE PARKING BRAKE WILL HOLD TRACTOR IN PLACE.

c. Move gear shift lever (page 11) to "NEUTRAL" position.

d. Place attachment clutch switch (page 11) in "DISENGAGED" position.

e. Move throttle control (page 11) to "S" (slow) position.

f. Turn ignition key (page 11) to "OFF" position. Never use choke to stop engine.

2. Starting The Engine

LEARN TO START, STOP AND REVERSE YOUR TRACTOR IN A LARGE, OPEN AREA.

NOTE: THIS TRACTOR IS EQUIPPED WITH INTERLOCK SWITCHES TO PREVENT STARTING OF THE TRACTOR ENGINE WHILE THE ATTACHMENT CLUTCH OR THE CLUTCH/BRAKE PEDAL IS ENGAGED.

IMMEDIATELY REPLACE SWITCHES THAT ARE NOT IN PROPER WORKING ORDER. DO NOT ATTEMPT TO DEFEAT THE PURPOSE OF THESE SWITCHES.

a. This engine has been shipped filled with summer weight oil (for cold weather operation see Chart page 16). Check engine oil level with tractor on level ground. Wipe dipstick (Fig. 12) clean, screw it in tight for a few seconds, remove and read oil level. If necessary, add oil until "FULL" mark is reached. See chart page 16.

b. Fill fuel tank (Fig. 13). Use fresh, clean, regular unleaded automotive gasoline. (Use of leaded gasoline will increase carbon and lead oxide deposits and reduce valve life). Capacity is 3-1/2 gallons.

CAUTION EXPERIENCE INDICATES THAT ALCOHOL BLENDED FUELS (CALLED GASOHOL OR USING ETHANOL OR METHANOL) CAN ATTRACT MOISTURE WHICH LEADS TO SEPARATION AND FORMATION OF ACIDS DURING STORAGE. ACIDIC GAS CAN DAMAGE THE FUEL SYSTEM OF AN ENGINE WHILE IN STORAGE.

TO AVOID ENGINE PROBLEMS, THE FUEL SYSTEM SHOULD BE EMPTIED BEFORE STORAGE OF 30 DAYS OR LONGER. DRAIN THE GAS TANK, START THE ENGINE AND LET IT RUN UNTIL THE FUEL LINES AND CARBURETOR ARE EMPTY. USE FRESH FUEL NEXT SEASON. SEE STORAGE INSTRUCTIONS FOR ADDITIONAL INFORMATION.

NEVER USE ENGINE OR CARBURETOR CLEANER PRODUCTS IN THE FUEL TANK OR PERMANENT DAMAGE MAY OCCUR.

c. Place attachment clutch switch (page 11) in "DISENGAGED" position.

d. Push clutch/brake pedal (page 11) fully into brake position.

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e. *Place gear shift lever in "N" neutral (page 11).*

f. *Place range shift lever in "N" neutral position (page 11).*

g. *Pull choke out (page 11)*

h. *Move throttle control to middle position (page 11).*

i. *Turn ignition to "START" position until engine starts (page 11). NOTE: DO NOT RUN STARTER CONTINUOUSLY FOR MORE THAN FIFTEEN SECONDS PER MINUTE. If engine does not start after several attempts, move throttle control to "F" position, wait a few minutes and try again.*

j. *After engine is warm, push choke in.*

The first time you start the engine, it will take extra cranking time to move fuel from tank to engine. NOTE: ALLOW ENGINE TO WARM UP FOR A FEW MINUTES BEFORE ENGAGING CLUTCH/BRAKE PEDAL OR ATTACHMENT CLUTCH SWITCH.

k. *When restarting a warm engine, move throttle control midway between "S" (slow) and "F" (fast) position. Choke may not have to be used.*

BEFORE DRIVING THE TRACTOR, INSTALL MOWER OR REMOTE FRONT PARALLEL LINK ASSEMBLY AND RAISE MOWER SUSPENSION ARMS TO HIGHEST POSITION (Fig. 9).

⚠ WARNING

1. *Keep all shields in place.*

2. *Before leaving operator's position:*
   a. *Shift transmission to neutral.*
   b. *Depress clutch/brake pedal and set parking brake.*
   c. *Disengage attachment clutch switch.*
   d. *Shut off engine.*
   e. *Remove ignition key.*

3. *Wait for all movement to stop before servicing machine.*

4. *Keep people and pets a safe distance away from machine.*

5. *Always wear substantial footwear and avoid loose fitting clothing that could get caught in moving parts.*

NEVER PLACE YOUR HANDS OR FEET IN OR UNDER ANY POWERED ATTACHMENT OR NEAR ANY MOVING PART WHILE TRACTOR OR ANY POWERED ATTACHMENT IS RUNNING.

DO NOT OPERATE THE MOWER WITHOUT THE DEFLECTOR SHIELD IN PLACE.

CAUTION: DO NOT ADD ADDITIONAL WEIGHT TO THE TRACTOR OTHER THAN THE OPTIONAL WHEEL WEIGHTS. EXCESSIVE WEIGHT MAY OVERLOAD AND DAMAGE THE TRANSMISSION.

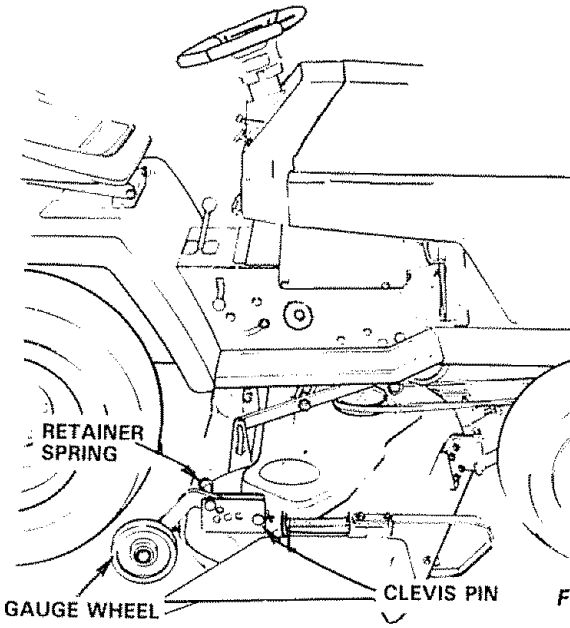

FIGURE 15

3. Operating Your Tractor and Mower

NOTE: THIS TRACTOR IS EQUIPPED WITH AN OPERATOR PRESENCE SENSING SWITCH. ANY ATTEMPT BY THE OPERATOR TO LEAVE THE SEAT WITH THE ENGINE RUNNING AND THE ATTACHMENT CLUTCH ENGAGED WILL SHUT OFF THE ENGINE.

READ THE "SAFETY RULES" CAREFULLY BEFORE OPERATING YOUR MOWER.

Use the height adjustment knob (page 11) to adjust mower height. Move the attachment lift switch to the full "UP" position, turn height adjustment knob clockwise (↷) to raise cutting height and counterclockwise (↶) to lower cutting height. Fully lower attachment to check adjustment.

a. *To adjust gauge wheels (Fig 15) lower attachment.*
b. *Remove retainer spring and clevis pin from gauge wheels.*
c. *Move gauge wheels to the adjustment hole that will provide the desired cut.*
d. *Replace retainer spring and clevis pin.*
e. *With engine running and warm, place throttle control midway between "S" (slow) and "F" (fast) position (page 11).*
f. *Move attachment to its full "UP" position.*
g. *To engage mower pull attachment clutch switch (page 11) out and up.*
h. *Move range shift lever to "LO" (low) position (page 11).*
i. *Move gear shift lever to desired gear (page 11).*
j. *Use attachment lift switch to lower mower into cutting position.*
k. *Release clutch/brake pedal SLOWLY to start movement.*
l. *Start mowing at slow and increase ground speed by increasing throttle as conditions will permit.*

NOTE: BRING TRACTOR TO COMPLETE STOP BEFORE SHIFTING GEARS.

OPERATION

FUNCTION	GEARSHIFT	THROTTLE
Normal Mowing	2H* or 3L*	FAST
Heavy Mowing	1H or 2L	
Snow Removal	1L	
Tilling	1L	SLOW
Dozing	1L	SLOW-FAST
Grading	2L	
Transport	3H	

FIGURE 16

* Indicates Range Shift Lever position: "H" for High, "L" for low

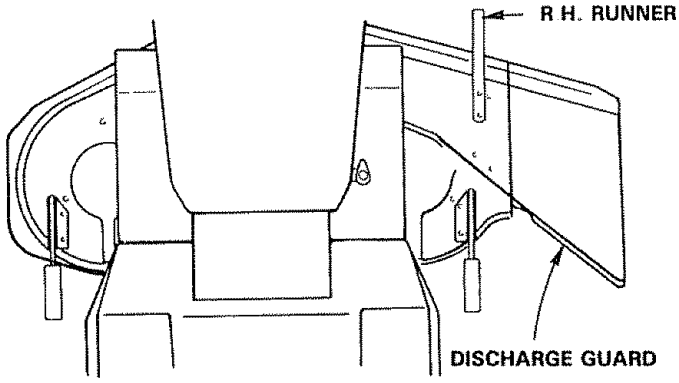

FIGURE 17

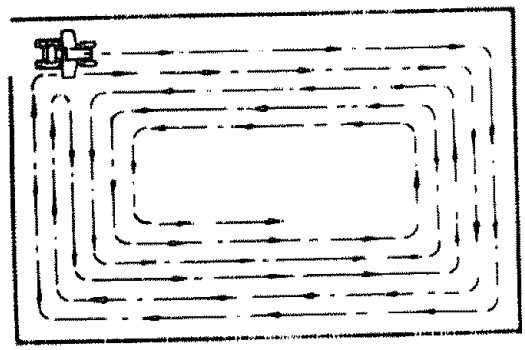

FIGURE 18

4. Mowing Tips

NOTE: TIRE CHAINS CANNOT BE USED WITH THE MOWER HOUSING ATTACHED

READ THE "SAFETY RULES" CAREFULLY BEFORE OPERATING YOUR MOWER. REFER TO PAGE 2.

a. Use the runner on the R.H. side as a guide; the blade cuts approximately an inch outside the runner (Fig. 17).

b. Drive so that clippings are discharged onto the area that has been cut. Have the cut area to the right of the machine. This will result in a more even distribution of clippings and more uniform cutting.

c. When mowing large areas (Fig. 18), start by turning to the right so that the clippings will be discharged away from shrubs, fences, driveways, etc. After two or three rounds, mow in the opposite direction making left hand turns until finished.

d. If grass is extremely tall, it should be mowed twice. The first time cut relatively high. The second time to the desired height.

e. The left hand side of mower should be used for trimming.

5. Operating The Tractor On Hills

a. Choose the lowest gear BEFORE starting up or down hills.

DO NOT DRIVE UP OR DOWN HILLS WITH SLOPES GREATER THAN 15° AND DO NOT DRIVE ACROSS ANY SLOPE. REFER TO PAGE 51.

b. Avoid stopping or shifting on hills.

c. If slowing is necessary, move throttle control lever to middle position.

LEAVE ENOUGH ROOM WHEN STOPPING AND STARTING TO ALLOW SLIGHT TRACTOR ROLL DOWNHILL AS CLUTCH/BRAKE PEDAL MOVES THROUGH CLUTCH POSITION.

d. If stopping is absolutely necessary, push clutch/brake pedal quickly to brake position and engage parking brake.

e. To restart your tractor, make sure tractor is in 1st gear and that you have allowed room to roll slightly downhill. Disengage parking brake and release clutch/brake pedal SLOWLY to start tractor forward movement.

f. Make all turns slowly.

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MAINTENANCE

To keep your tractor running better, longer, perform necessary service using the following maintenance schedule:

BEFORE MAKING ANY INSPECTION, ADJUSTMENT OR REPAIR: (FIG. 19):

1. **PUSH TRACTOR CLUTCH/BRAKE PEDAL COMPLETELY INTO BRAKE POSITION.**
2. **MOVE GEAR SHIFT CONTROL LEVER TO NEUTRAL POSTION.**
3. **PLACE PARKING BRAKE IN "ENGAGED POSITION. REMOVE FOOT FROM PEDAL.**
4. **TURN OFF ATTACHMENT CLUTCH SWITCH.**
5. **SHUT OFF THE ENGINE.**
6. **MAKE ABSOLUTELY SURE THE BLADES AND ALL MOVING PARTS HAVE COMPLETELY STOPPED.**
7. **DISCONNECT THE SPARK PLUG WIRES FROM THE SPARK PLUGS AND KEEP WIRES AWAY FROM THE SPARK PLUGS TO PREVENT INJURY FROM ACCIDENTAL STARTING. BE CAREFUL TO AVOID TOUCHING HOT ENGINE OR MUFFLER COMPONENTS.**

With Every Mowing

Make sure all nuts on bolts are tight and cotter pins and retainer springs are secure.
Observe all safety precautions.
Keep Tractor well lubricated (refer to page 18).

First Two Hours (Two Mowings)

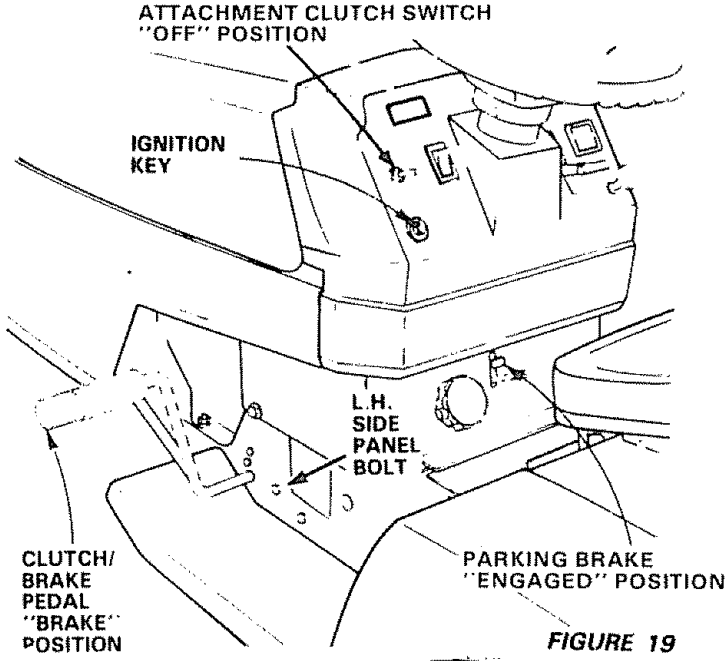
CHANGE ENGINE OIL.
Changing oil after the first two hours (or two mowings) will help eliminate break-in residue which might be damaging to your engine.
NOTE: BE CAREFUL NOT TO ALLOW DIRT TO ENTER THE ENGINE WHEN CHANGING OIL.

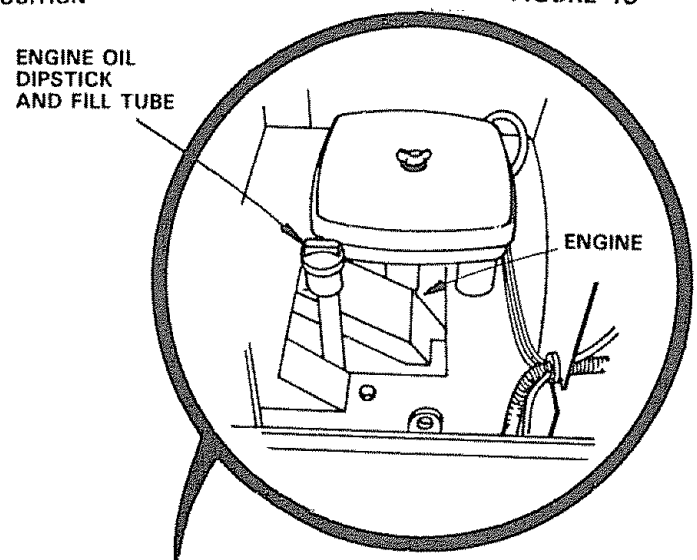
a. Drain oil with engine warm.
b. Remove hood and grill (see page 23)
c. Loosen oil drain wing nut (Fig. 20) Catch oil in a suitable container and discard.
d. Tighten oil drain wing nut after all oil has been removed from engine.
e. Refill engine oil. Refill capacity is 3 pints without filter change. NOTE: DO NOT OVERFILL.
f. Replace dipstick.

FIRST 25 HOURS

1. CHANGE ENGINE OIL AND OIL FILTER (INITIAL BREAK-IN CHECK).
Refer to Service Record, Page 19 for oil filter change interval. If operating in extremely dusty conditions, change oil filter more often.

a. Drain oil and discard.
b. Spin off oil filter element and discard.
c. Thoroughly clean filter mounting surface and make sure new gasket is inserted in the element.
d. Apply a thin film of oil to the gasket.
e. Spin element down by hand until gasket just touches mounting pad. Then turn down an additional ¼-½ turn. Do not overtighten.
f. Refill engine oil. Refill capacity is 3½ pints with oil filter change.
g. With oil in crankcase, start engine and check for leaks around the filter element. Retighten only as much as necessary to eliminate leaks. Do not overtighten.
h. Shut down engine and re-check oil level. Add as necessary to bring up to full mark.


ATTACHMENT CLUTCH SWITCH "OFF" POSITION
IGNITION KEY
L.H. SIDE PANEL BOLT
CLUTCH/ BRAKE PEDAL "BRAKE" POSITION
PARKING BRAKE "ENGAGED" POSITION
FIGURE 19



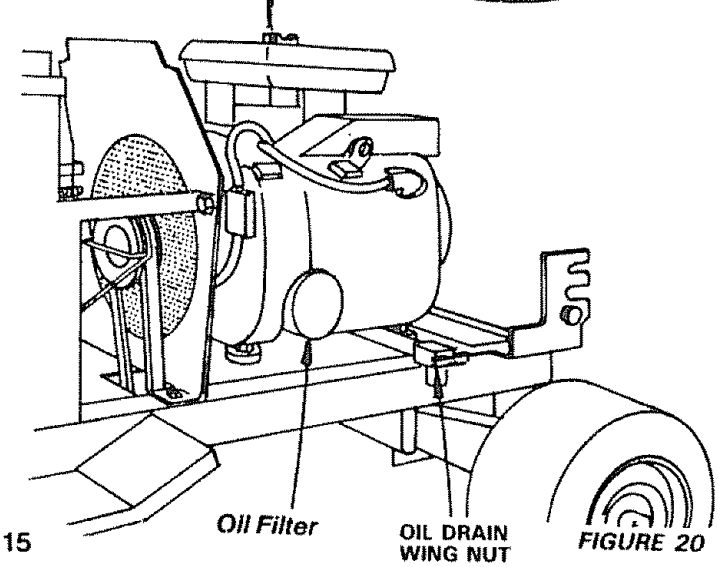


FIGURE 20

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MAINTENANCE

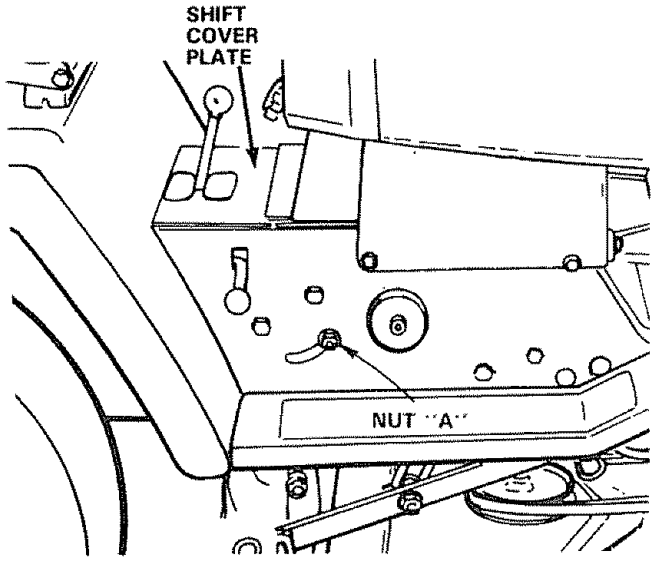


FIGURE 21

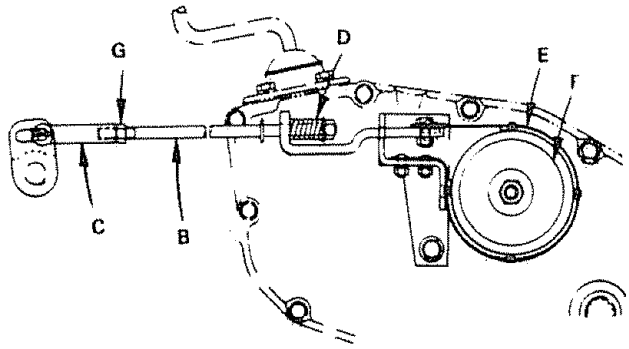


FIGURE 22

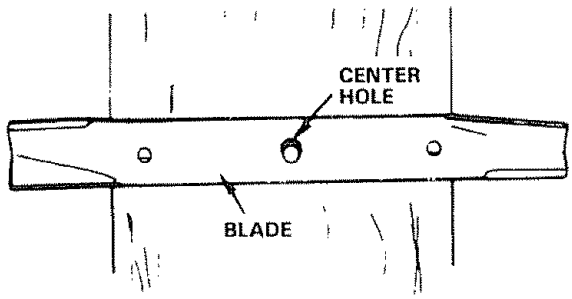
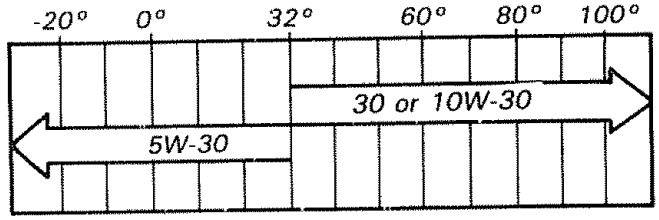


FIGURE 23

Recommended SAE Viscosity Grades

Determine temperature expected before next oil change. All oil must meet A.P.I. service classification SD, SE or SF.



NOTE: DO NOT OVERFILL. *Dipstick assembly must be securely tightened into tube at all times when engine is operating.*

CAUTION: TO AVOID DAMAGE TO THE STARTING SYSTEM, USE SAE 5W30 OIL WHEN THE TEMPERATURE FALLS BELOW 32°.

f. Replace dipstick.

Every 5 Hours (Five Mowings)

1 Check Engine Oil Level

DO NOT CHECK ENGINE OIL LEVEL WITH ENGINE RUNNING.

Several minutes after stopping engine, check engine oil level with tractor on level ground. Wipe dipstick (Fig. 20) clean, screw it down tight for a few seconds, remove and read oil level. If necessary, add oil until "FULL" mark is reached. NOTE: DO NOT OVERFILL.

Every 25 Hours (Twice a Mowing Season)

(Operating in dusty conditions may require more frequent servicing.)

1. Brake Adjustment

IF TRACTOR REQUIRES MORE THAN SIX FEET STOPPING DISTANCE IN HIGHEST GEAR ON A LEVEL DRY CONCRETE OR PAVED SURFACE THEN BRAKE MUST BE ADJUSTED.

a. Remove (4) hex washer head tapping screws from shift cover plate (Fig. 21), located on top of tractor frame. Remove the cover plate.

b. Loosen jam nut (G) on brake rod (B) at clevis (c) (Fig. 22). If you find it difficult to loosen jam nut (G), remove cover plate in L.H. frame rail.

c. Rotate brake rod (B) counterclockwise (↶) turning brake rod out of clevis (C) four to six turns.

d. Start tractor with tramsmission in "N" (neutral) position.

e. Depress clutch/brake pedal to the point where belt stops moving.

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f. *Engage parking brake to hold clutch/brake pedal in position. If belt begins to move after engaging parking brake, depress clutch/brake pedal to next notch on parking brake.*

g. *Shut engine off. Rotate brake rod (B) clockwise (↷) by hand, turning brake rod into clevis (C), until tight. Tighten jam nut (G) on brake rod. (B) at clevis (C) (Fig. 22).*

h. *Reinstall shift cover plate and four (4) mounting screws. Replace cover plate if removed in step (b).*

2. Tire Care

Maintain tire pressure in front at 14 PSI and rear tires at 10 PSI.

3. Blade Care

For best results mower blades must be kept sharp. The blades can be sharpened with a few strokes of a file or on a grinding wheel. We suggest they be sharpened after every 25 hours of mowing. Do not attempt to sharpen while on mower.

a. *When grinding, care should be taken to maintain blade balance and the blade should be checked for proper balance before reinstallation on mower.*

b. *Unbalanced or bent blade will cause excessive vibration when running and eventual damage to mower or engine. Replace bent or damaged blades.*

To check blade balance, drive a nail into a beam or wall. Leave about one inch of the straight nail exposed. Place center hole of clean blade over the head of the nail (Fig. 23). NOTE: CENTER HOLE OF BLADE ON NAIL. IF BLADE IS PROPERLY BALANCED, BLADE SHOULD REMAIN IN POSITION SHOWN IN FIG. 23. IF EITHER END OF THE BLADE MOVES DOWNWARD, BLADE IS NOT BALANCED, SHARPEN THE HEAVY END UNTIL THE BLADE IS BALANCED.

Every 50 Hours (Once a Mowing Season)

(Operating in dusty conditions may require more frequent servicing)

1. Check Battery

a. *Electrolyte solution level in each battery cell should be even with bottoms of tubes in cells (Fig. 24). Add only distilled water if necessary.* NOTE: DO NOT OVERFILL. DO NOT ADD ACID.

b. *Keep battery and terminals clean. Refer to page 18.*

c. *Keep battery bolts tight.*

d. *Keep vent caps tight and small vent holes in caps open.*

e. *Recharge at 6 amperes for 1 hour if necessary.*

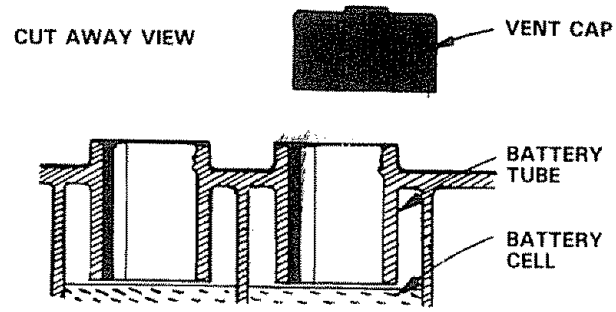


FIGURE 24

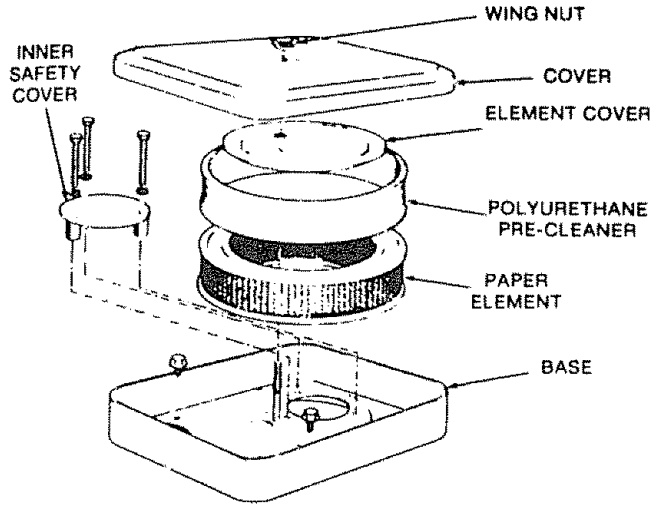


FIGURE 25

FIGURE 25A

2. Clean Air Filter

a. *Unscrew knob (Fig. 25) to remove cover.*

b. *Remove polyurethane pre-cleaner.*

c. *Wash foam pre-cleaner in detergent and water.*

d. *Rinse, squeeze (rather than twist) allow to dry throughly. (Fig. 25A).*

e. *Coat with three tablespoons of S.A.E. 30 engine oil squeeze to distribute evenly and squeeze out excess.*

f. *Check paper cartridge. Replace if excessively dirty.*

g. *Reassemble paper cartridge and re-position on tractor.* NOTE: NEVER RUN ENGINE WITH AIR FILTER REMOVED AS DIRT (DUST) WILL DAMAGE THE ENGINE.

MAINTENANCE

3. Clean Battery and Terminals

Corrosion and dirt on the battery and terminals cause the battery to "leak" power and hinders the operation of the charger.

a. Remove terminal guard.

b. Remove the battery from the tractor and wash with four tablespoons of baking soda to one gallon of water. NOTE: BE CAREFUL NOT TO GET THE SODA SOLUTION INTO THE CELLS.

c. Clean terminals and cable ends with a wire brush until bright.

d. Rinse the battery with plain water, dry and reinstall on tractor.

e. Replace cables and terminal guard. Refer to page 8.

4. Change Engine Oil

The best time to drain engine oil is at the end of a day's operation when all dirt and foreign materials are suspended in the hot oil. Refer to page 15.

5. Change Oil Filter

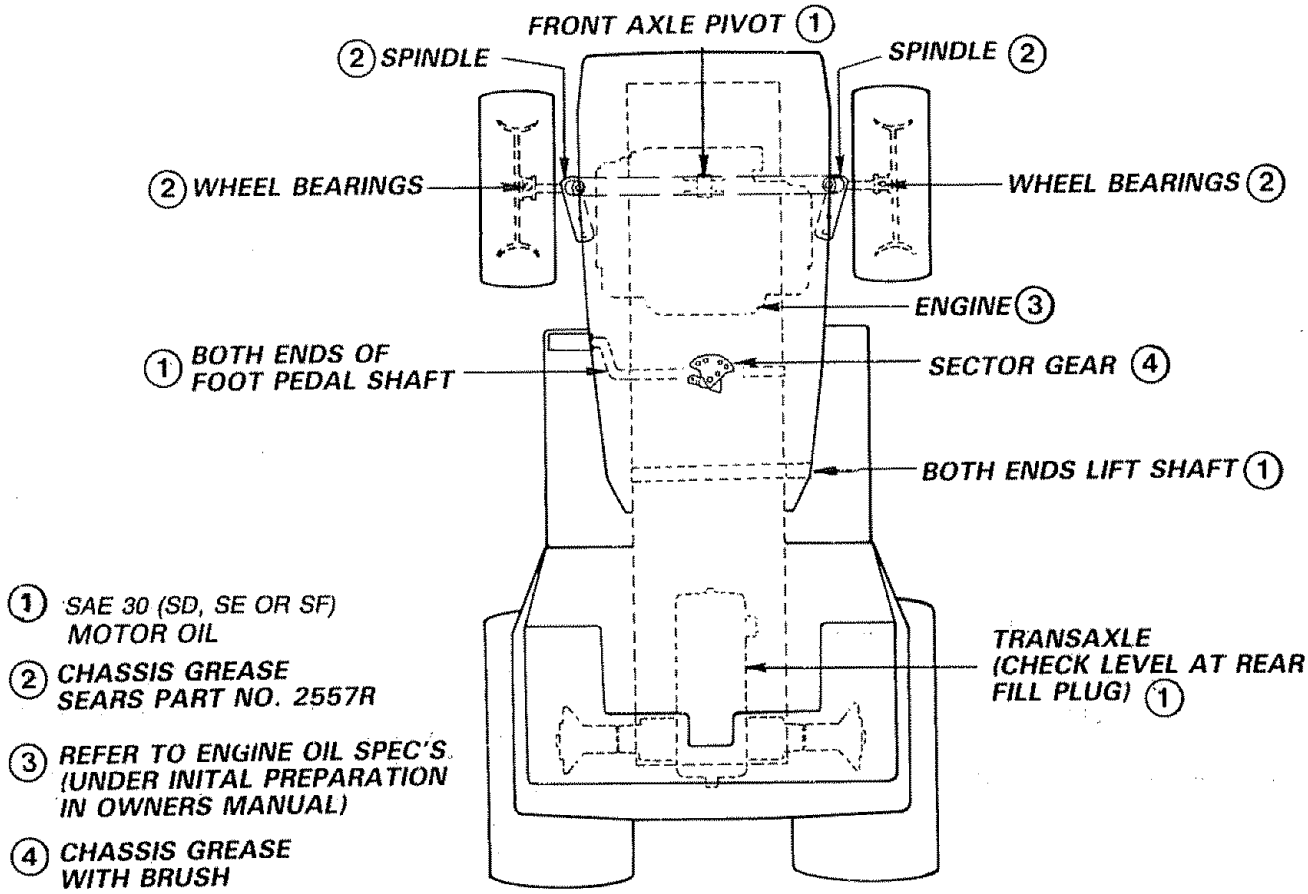
If operating in extremely dusty conditions, change oil filter more often. Refer to Page 15.

6. Lubricate Pivot Points

Place several drops of S.A.E. 30 oil at points where parts move against each other, especially:

a. Front Axle Pivot
b. Hood Hinges
c. Foot Pedal Shaft (both ends)
d. Lift Shaft (both ends)
e. Steering Plate

Lubrication Chart


FRONT AXLE PIVOT (1)
(2) SPINDLE
SPINDLE (2)
(2) WHEEL BEARINGS
WHEEL BEARINGS (2)
ENGINE (3)
(1) BOTH ENDS OF FOOT PEDAL SHAFT
SECTOR GEAR (4)
BOTH ENDS LIFT SHAFT (1)
TRANSAXLE (CHECK LEVEL AT REAR FILL PLUG) (1)
(1) SAE 30 (SD, SE OR SF) MOTOR OIL
(2) CHASSIS GREASE SEARS PART NO. 2557R
(3) REFER TO ENGINE OIL SPEC'S (UNDER INITAL PREPARATION IN OWNERS MANUAL)
(4) CHASSIS GREASE WITH BRUSH

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7. Clean Air Screen

Air screen (Fig. 26) must allow free-flow of air to prevent engine damage from overheating. Clean with a wire brush or compressed air to remove dirt, stubborn dried gum and fibers.

8. Clean Front Grill

Brush debris from front grill to allow free-flow of air, preventing engine damage from overheating.

9. Lubricate Steering and Front Wheels

There are four grease fittings on your tractor (Fig. 27). Using a grease gun, give each grease fitting two shots of chassis grease (available through your Sears Service Center). Sears Part No. 2557R.

10. Check Muffler

Inspect and replace corroded muffler as it could create a fire hazard and/or engine damage.

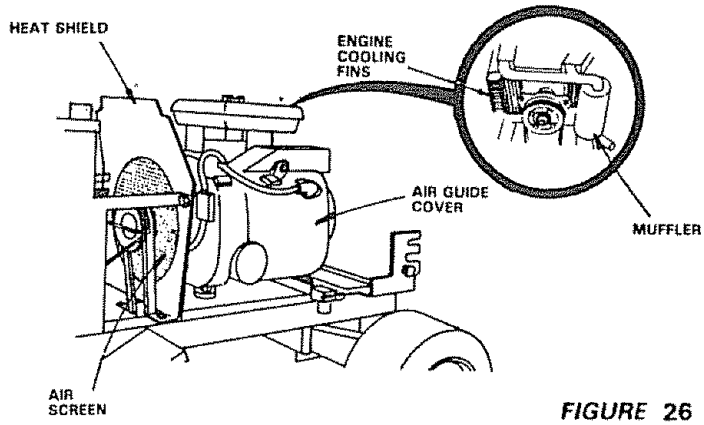

FIGURE 26

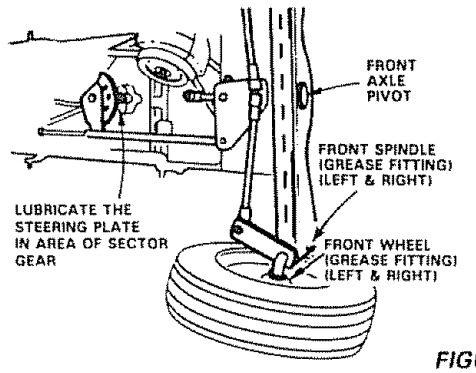
FRONT AXLE PIVOT
FRONT SPINDLE (GREASE FITTING) (LEFT & RIGHT)
LUBRICATE THE STEERING PLATE IN AREA OF SECTOR GEAR
FRONT WHEEL (GREASE FITTING) (LEFT & RIGHT)

FIGURE 27

EVERY 100 HOURS (Every Two Years)

DISCONNECT SPARK PLUG WIRES TO PREVENT ACCIDENTAL STARTING BEFORE MAKING ANY INSPECTION, ADJUSTMENT OR REPAIR (EXCEPT CARBURETOR).

1. Replace Spark Plugs

Replace spark plugs at the beginning of each season or every 100 hours, whichever comes first. Gap should be set at .025" inch (Fig. 28).

2. Replace Air Filter Paper Cartridge

Refer to page 17.

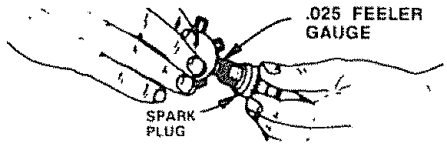

FIGURE 28

SERVICE RECORD

SERVICE RECORD Fill in dates as you complete regular service	SCHEDULE							
	FIRST 2 HOURS	FIRST 25 HOURS	EVERY 5 HOURS	EVERY 25 HOURS	EVERY 50 HOURS	EVERY 100 HOURS		
Blades				X				
Brake Adjustment				X				
Check Battery					X			
Change Engine Oil	X				X			
Check Engine Oil Level			X					
Clean Air Cleaner Element				X				
Check Muffler					X			
Clean Air Screen					X			
Clean Front Grill					X			
Lubricate Tractor					X			
Replace Spark Plugs						X		
Replace Air Cleaner Element						X		
Check tire inflation pressure				X				
Change Engine Oil Filter		X			X			

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REPAIR AND ADJUSTMENT

1. Starting Your Tractor with a Weak Battery

If your battery is too low to start the engine, it should be recharged. If "jumper cables" are used for emergency starting follow this procedure:

NOTE: YOUR TRACTOR IS EQUIPPED WITH A 12 VOLT NEGATIVE GROUNDED SYSTEM, THE OTHER VEHICLE MUST ALSO BE A 12 VOLT NEGATIVE GROUNDED SYSTEM.

LEAD-ACID BATTERIES GENERATE EXPLOSIVE GASES. KEEP SPARKS, FLAME AND SMOKING MATERIALS AWAY FROM BATTERIES. ALWAYS WEAR EYE PROTECTION AROUND BATTERY.

a. Connect each end of the RED cable to the POSITIVE (+) terminals of each battery (taking care not to short against chassis). (Fig. 29).
b. Connect one end of the BLACK cable to the NEGATIVE (-) terminal of fully charged battery.
c. Connect the other end of the cable to L.H. side panel bolt (Fig. 19). NOTE: KEEP AWAY FROM GAS TANK AND BATTERY.
d. Disconnect cables in reverse order:
1. L.H. Side Panel Bolt (Fig. 19).
2. Negative Terminal of fully charger Battery
3. Postive Terminals

IMPORTANT: DO NOT USE YOUR BATTERY TO START OTHER VEHICLES.

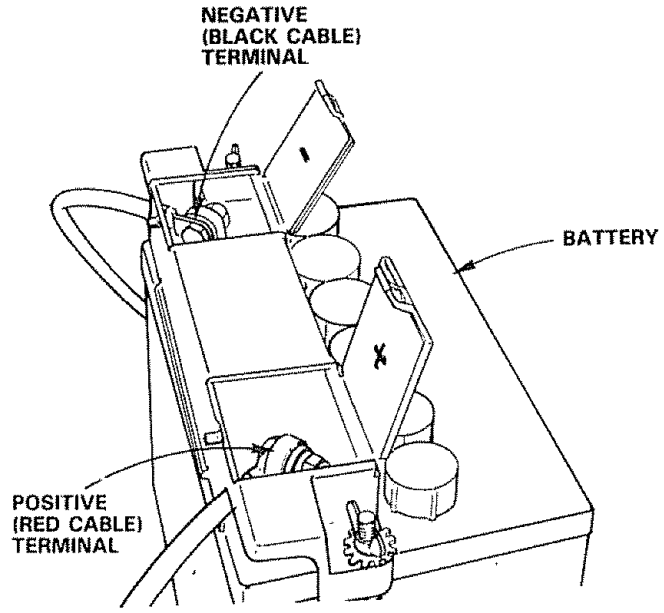

FIGURE 29

2. Carburetor

All carburetors have a fixed main jet. An optional main jet is available for altitude compensation above 5,000 feet.

The carburetor idle mixture was set for maximum efficiency at the factory and should normally not be disturbed. If adjustments seem necessary, first be sure the ignition system is working properly and governor sensitivity is properly adjusted.

The carburetor has a limited adjustment range between stops of ±⅛ turn. The screw should only be adjusted within these limits; in to lean the mixture, out to richen.

When replacing idle mixture screw, turn in until lightly seated, then turn screw back out 1¼ turns. Replace limiter cap with the plastic stop approximately centered.

3. Throttle Control Cable and Carburetor Adjustment

Never attempt to change maximum engine speed. This is preset at the factory and should only be changed by a qualified service technician who has the necessary equipment.

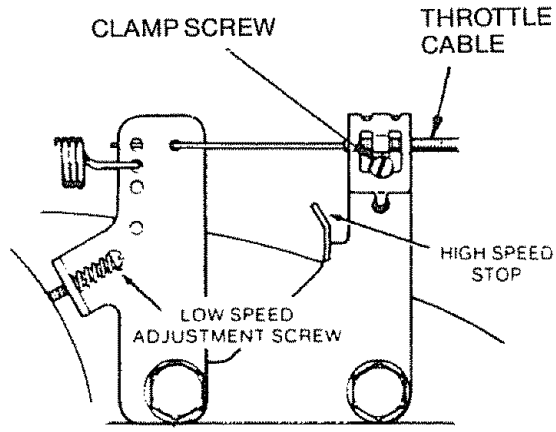

FIGURE 30

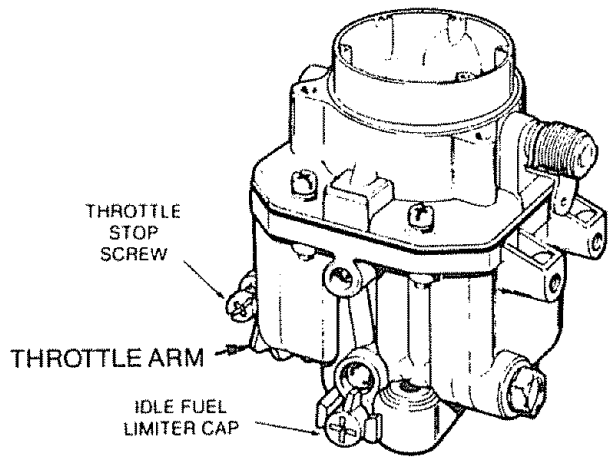

FIGURE 31

REFER TO "STARTING THE ENGINE", PAGE 12.

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REPAIR & ADJUSTMENT

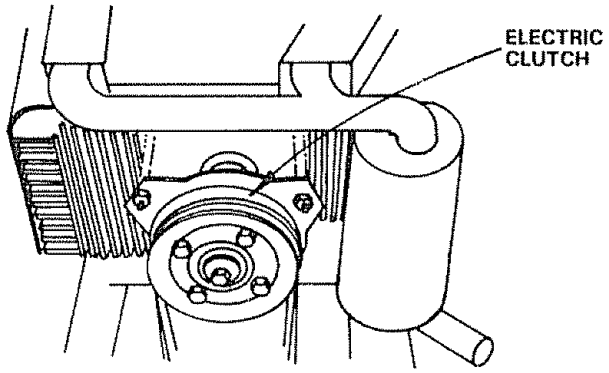

FIGURE 32

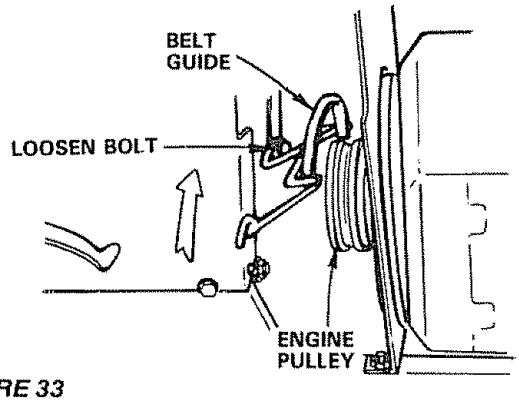

FIGURE 33

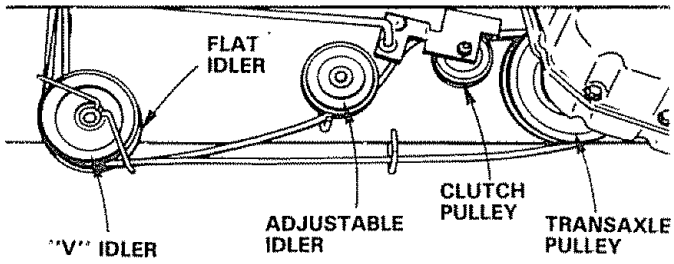

FIGURE 34

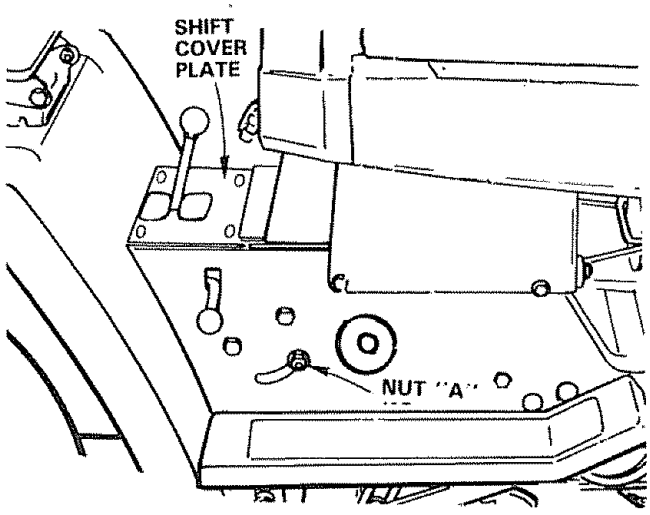

FIGURE 35

a. *Start the engine and allow it to warm up thoroughly (at least 10 minutes.)*
b. *Loosen clamp screw so throttle cable is free to move (Fig. 30).*
c. *Move throttle (on dashboard) to "slow" position.*
d. *Hold throttle arm against stop screw and adjust throttle stop screw to 1000-1100 RPM (Fig. 31).*
e. *Adjust the governor low speed adjustment screw for 1400 RPM idle (Fig. 30).*
f. *Tighten clamp screw to secure throttle cable.*

4. Electric Clutch Adjustment

The electric clutch (Fig. 32) should provide years of service. The clutch incorporates a built-in brake that stops the pulley almost immediately. Eventually, the internal brake will wear so the mower blades will not stop as recommended. Adjustment must be made by a Sears Service Technician.

5. Motion Drive Belt Removal

The belt on this tractor is special for this application. Always replace with the Sears belt number in the parts list. It is not necessary to remove mower.

a. *Raise hood and disconnect negative ground battery cable.*
b. *Set parking brake (to get belt slack).*
c. *Loosen (do not remove) two engine pulley belt guide bolts and swivel R.H. side of belt guide up. Tighten L.H. bolt to hold belt guide in position (Fig. 33).*
d. *Roll belt off engine pulley.*
e. *Roll belt off "V" idler, flat idler and adjustable idler pulleys (Fig. 34).*
f. *Pull belt off clutch pulley - between pulley and frame.*
g. *Loosen nut "A" on R.H. outside of frame (Fig. 35).*

6. Motion Drive Belt Replacement

NOTE: THERE IS A BELT INSTALLATION DECAL UNDER L.H. FOOTREST.

a. *Push belt down from engine pulley area. Place back (flat) side of belt on flat idler. (Flat idler is next to frame).*
b. *Place belt on adjustable idler and over clutch pulley. "V" (narrow) part of belt should engage clutch pulley.*

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c. *Place belt around transaxle pulley. "V" part of belt should engage transaxle pulley.*

d. *Make sure "V" part of belt engages "V" idler.*

e. *Roll belt over engine pulley.*

f. *Loosen L.H. engine pulley belt guide bolt and swivel belt guide bolt and swivel belt guide onto R.H. bolt. Tighten L.H. and R.H. bolts securely (Fig. 36).*

g. *Release parking brake.* NOTE: WHEN A NEW BELT HAS BEEN INSTALLED, YOU MUST CHECK V-BELT ADJUSTMENT AND BRAKE ADJUSTMENT.

h. *Tighten nut "A" on R.H. outside of frame (Fig 35).*

7. Motion Drive Belt Adjustment

To assure maximum belt life check belt adjustment seasonally.

a. *To tighten belt, remove (4) hex washer head tapping screws from shift cover plate (Fig. 35) located on top of tractor frame. Remove the cover plate.*

b. *Place parking brake lever in "ENGAGED" position. Refer to "Stopping Your Tractor", page 12.*

c. *Loosen nut "A" located on outside of R.H. chassis frame (Fig. 35), slide take-up idler down approximately 1/2" and tighten nut "A".*

d. *Disengage parking brake.*

e. *Check position of clutch idler bracket (Fig. 37).*

f. *Repeat steps (b) thru (e) until 1 - 1/16" dimension is obtained between top of pin and top of frame as shown in Fig. 37.*

g. *Retighten nut "A" securely.* NOTE: AFTER ADJUSTING V-BELT YOU MUST RE-ADJUST BRAKE, SEE "BRAKE ADJUSTMENT", PAGE 16.

h. *Reinstall shift cover plate and (4) screws removed in step (a).*

8. Idler Bracket Removal

NOTE: WHEN OPERATING TRACTOR WITHOUT MOWER, REMOVE IDLER BRACKET FROM FRONT OF TRACTOR.

a. *Pull belt up through idler bracket and out of tractor. Use lever to swing tension pulley for belt removal.*

b. *Remove lockwashers and nuts from idler bracket (Fig. 38).*

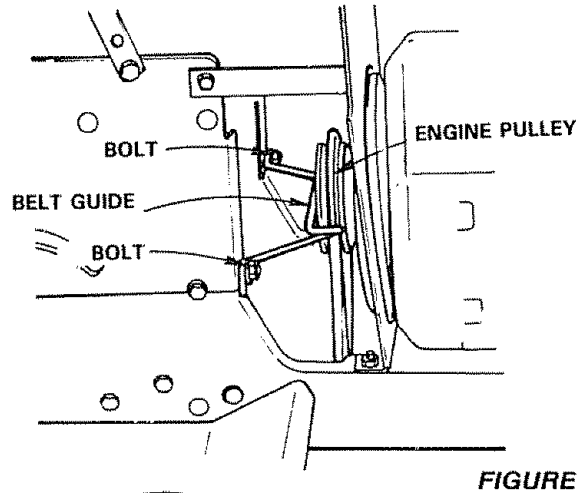

FIGURE 36

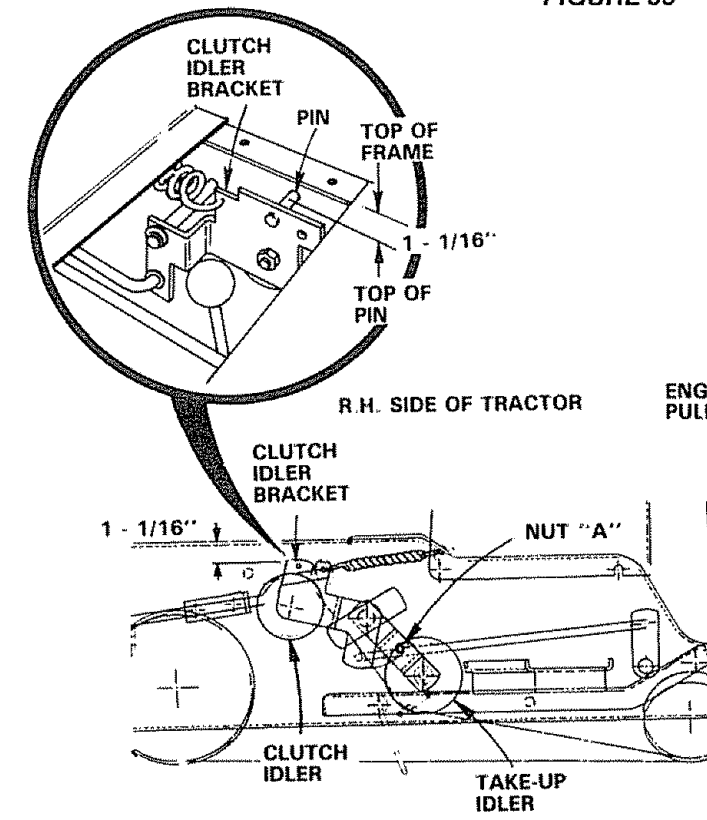

FIGURE 37

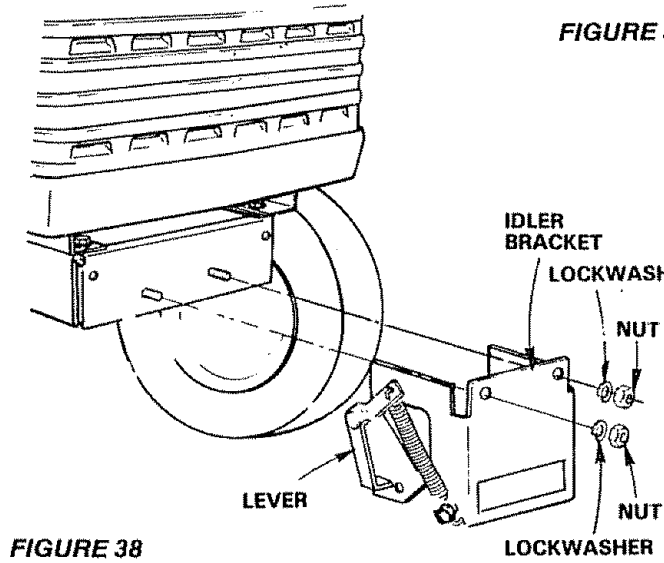

FIGURE 38

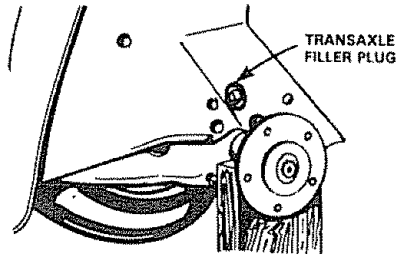

FIGURE 39

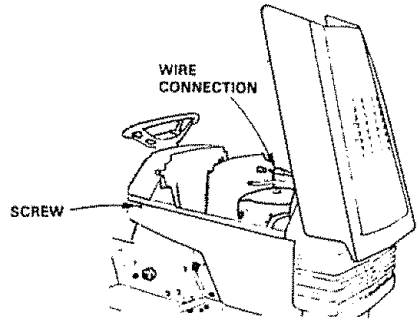

FIGURE 40

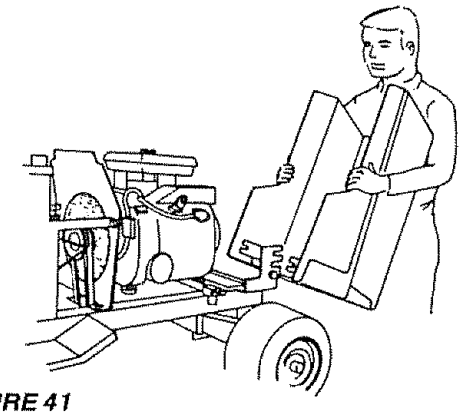

FIGURE 41

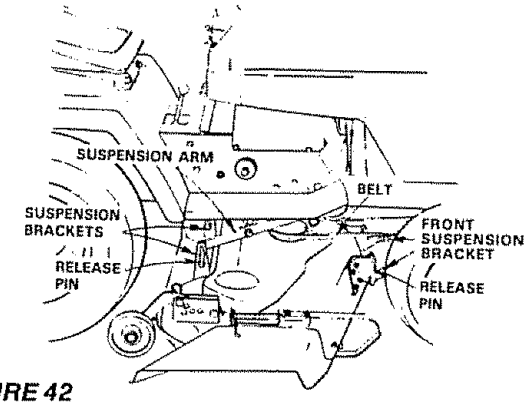

FIGURE 42

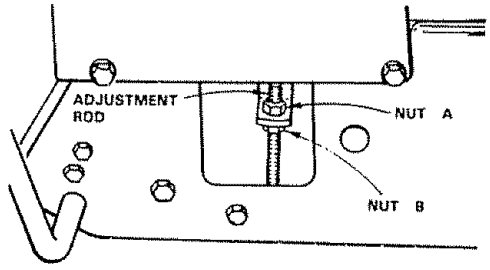

FIGURE 43

9. Fuse Replacement

Replace with 30 amp automotive - type, plug-in fuse. Fuses can be purchased at all Sears Service Centers and most retail stores.

10. Check Transaxle Oil Level

a. Block up rear axle (Fig. 39) securely or use a tractor jack.

b. Remove left rear wheel by removing hub bolts.

c. Remove filler plug (Fig. 39) from transaxle. Oil level must be even with plug threads. See your Sears Service Center if additional oil is required. Replace filler plug.

d. Reposition wheel. Secure with hub bolts.

11. Hood Removal

a. Lift hood. Disconnect headlight wiring connection (Fig. 40).

b. Unscrew one screw at rear of each side panel (Fig. 40).

c. Pivot hood and side panel forward and lift off tractor (Fig. 41).

d. To replace, reverse the above procedure.

12. Mower Removal

a. Lower mower.

b. Pull the four (4) release pins out of suspension brackets (Fig. 42).

c. Move the attachment to the full "UP" position. The suspension arms will lift out of the suspension brackets.

d. Slide mower forward and remove belt from primary mandrel.

e. Slide mower out from under tractor.

NOTE: IF AN ATTACHMENT OTHER THAN THE MOWER DECK IS TO BE MOUNTED ON THE TRACTOR, REMOVE THE FRONT PARALLEL LINK ASSEMBLY (Fig. 44).

13. Level Mower Housing

Adjust the mower while tractor is parked on level ground or driveway. Make sure tire pressures are 14 PSI in front; 10 PSI in rear.

Side to Side Mower Adjustment

a. Move attachment to full "UP" position.

b. Use a ruler to make sure bottom of curl at rear of mower deck are the same height from the ground on each side (Fig. 45).

c. If adjustment is required, snap out access cover on L.H. side of tractor above footrest (Fig. 43).

d. To raise left side of mower, loosen nut "B" and screw nut "A" down on adjustment rod.

e. Adjust until both rear mower flanges are the same height above the ground. Tighten nuts "A" and "B" securely.

f. Snap access cover in place.

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Front to Rear Mower Adjustment

Move attachment to full "UP" position. After leveling side to side, measure bottom of curl at FRONT AND REAR OF MOWER. The bottom of curl at the R.H. front flanges should measure 3/4" lower than at the R.H. REAR flange (Fig. 45). If adjustment is required follow the procedure below.

a. To raise front of mower loosen nuts "D". Screw nuts "C" up onto suspension arms (Fig. 44). NOTE: SCREW NUTS "C" ON BOTH SUSPENSION ARMS THE SAME NUMBER OF TURNS SO MOWER WILL REMAIN LEVEL. *Tighten nuts "D" securely.*

b. To lower front of mower loosen nuts "C". Screw nuts "D" down suspension arms. NOTE: SCREW NUTS "D" THE SAME NUMBER OF TURNS SO MOWER WILL REMAIN LEVEL. *Tighten nuts "C" securely.*

c. With mower deck at desired height, set gauge wheels (Fig. 46) to lowest position without touching the ground.

d. Use attachment lift switch to set mower at the approximate cutting height you need.

e. Use clevis pin (Fig. 46) to set gauge wheels at lowest point without touching the ground.

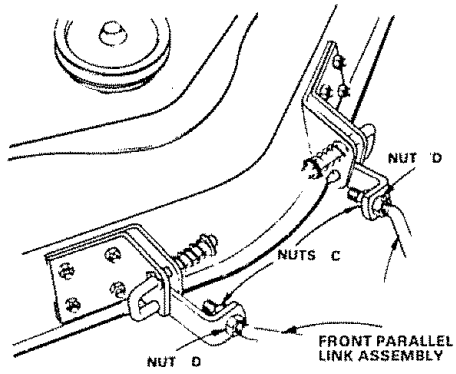


FIGURE 44

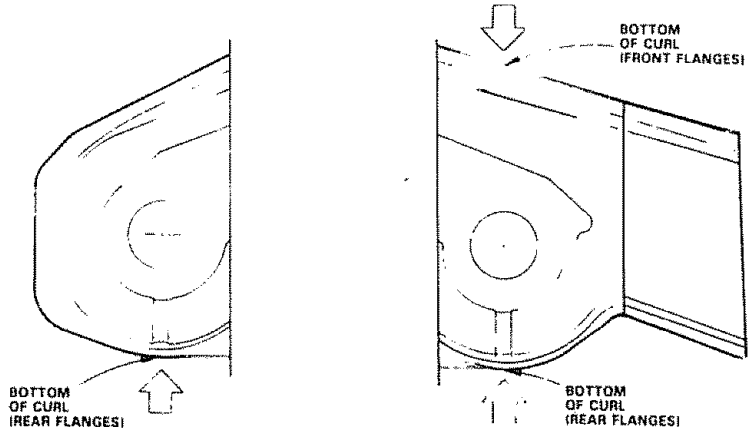


FIGURE 45

14. Blade Drive Belt Removal and Replacement

BELT ROUTING DECAL UNDER MOWER DECK COVER.

a. Remove mower from tractor (see page 23).

b. Remove top cover self tapping screws, lockwashers and nuts from idler arm bolt.

c. Roll belt over the top of the R.H. mandrel.

d. Pull belt off all other mandrels.

e. Remove any dirt and grass which may have accumulated around mandrels and idler arm.

f. Check deck idler arm assembly and flat idler to see that they rotate freely (Fig. 47).

g. Be sure spring is hooked in deck idler arm assembly and on bolt in mower housing (Fig. 47).

h. Install new belt in groove of L.H. mandrel sheave, lower groove of center mandrel sheave and around flat idler as shown (Fig. 47).

i. From a position at discharge end of mower, roll belt into groove of R.H. mandrel sheave (Fig. 47).

j. Rotate center mandrel sheave by hand to make sure belt is in grooves properly.

BLADES WILL ROTATE WITH CENTER MANDREL SHEAVES.

k. Reassemble top cover to deck. Tighten all screws securely.

l. Install mower to tractor (see page 10).

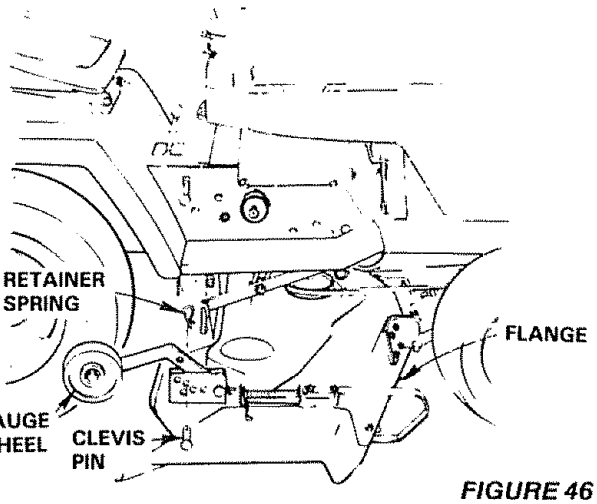


FIGURE 46

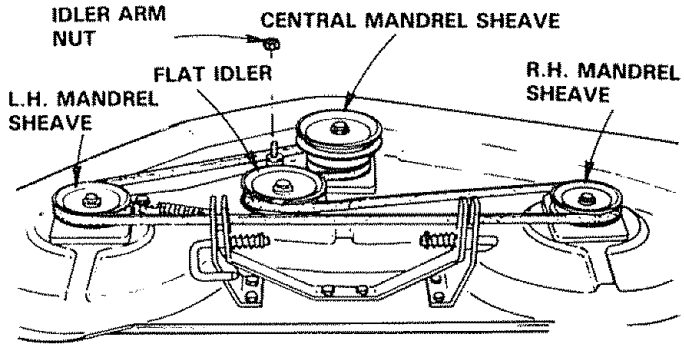


FIGURE 47

REPAIR AND ADJUSTMENT

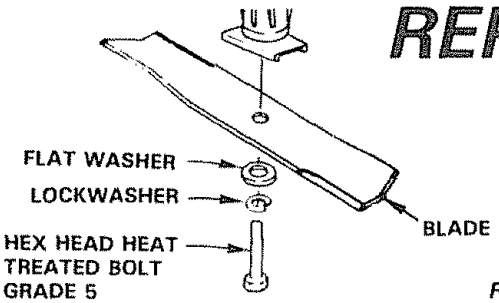


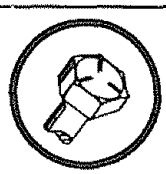
FIGURE 49

16. Blade Replacement

It is not necessary to remove mower from tractor for blade replacement. Moving adjustment lift lever to up (Rear) position will permit access to blades.

a. Remove the hex head bolt, lockwasher and flat washer (Fig. 49).
b. Remove and discard old blade.
c. Clean top and bottom of mower housing.
d Install new blade with SHARP EDGE DOWN and secure with flat washer, lockwasher and hex head bolt. TIGHTEN SECURELY.

ALWAYS USE GRADE 5 HEAT TREATED BOLTS TO ATTACH BLADES. CHECK BOLTS IN BLADES OCCASIONALLY TO MAKE SURE BOLTS ARE TIGHT. TORQUE BOLTS 30 - 35 FT. LBS.



A GRADE 5 HEAT TREATED BOLT CAN BE IDENTIFIED BY THREE LINES ON THE BOLT HEAD AS SHOWN ON LEFT.

17. Storage

Remove mower from tractor for winter storage. When mower is to be stored for a period of time, clean it thoroughly, remove all dirt, grease, leaves, etc. Store in a clean dry area.

A. Fuel System

NOTE: GASOLINE STORAGE STABILIZER (SUCH AS STA-BIL) MUST BE ADDED TO GASOLINE WHEN STORING UNIT. SUCH AN ADDITIVE WILL MINIMIZE FUEL GUM DEPOSITS PREVENTING A CLOGGED FUEL SYSTEM. FOLLOW DIRECTIONS ON STA-BIL CONTAINER.

Run engine 10 minutes after adding STA-BIL to gasoline to allow additive to reach carburetor.

It is important to prevent gum deposits from forming in essential fuel system parts such as the carburetor, fuel filter, fuel hose, or tank during storage. Also, experience indicates that alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to seraration and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage. To avoid engine problems, the fuel system should be emptied before storage of 30 days or longer.

B. Engine Oil

Drain (with engine warm) and replace with clean engine oil, (See chart page 16).

C. Cylinders

1. Remove spark plugs.
2. Pour one ounce of oil through spark plug holes into cylinders.
3. Turn ignition key to "START" position for a few seconds to distribute oil.
4. Replace with new spark plugs.

D. Battery

1. Prior to storage, clean terminals and top of battery.
2. After a period of time in storage, battery may require recharging.

E. General Cleaning

Clean engine, battery, seat, finish, etc. of all foreign matter.

F. Store in a Clean Dry Area

TROUBLESHOOTING

POSSIBLE CAUSE	CAUSE/ REMEDY (SEE INDEX)
WILL NOT TURN OVER	*Push Clutch/Brake Pedal into Brake Position* *Move Attachment Clutch Switch to "Disengaged Position"* *Charge Battery* *Replace Ignition Switch* *Engage Interlock Switch* *Replace Interlock Switch* *Replace Solenoid* *Replace Fuse* *Check All Wire Connections*
WILL NOT START	*Fill Tank with Gasoline. Check Fuel Line and Carburetor (clean if necessary) Replace Fuel Filter* *Check fuse for fault and replace* *Recharge or replace Battery* *Check Wiring* *Replace Spark Plugs and adjust gap*
ENGINE CLICKS BUT WON'T START	*Charge or Replace Battery* *Check or Replace Starter*
HARD TO START	*Place Throttle Control in "FAST" position and run starter several times to clear out gas* *Remove and clean Fuel Tank and lines. Replace Fuel Filter* *Remove Air Filter and clean* *Replace Spark Plugs and adjust gap* *Replace Battery* *Check the wiring and Spark Plugs* *Drain Fuel Tank and Carburetor, use fresh fuel and replace Spark Plugs* *Make necessary adjustments to Carburetor* *Major Engine Overhaul Check Valve Lash*

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TROUBLESHOOTING

POSSIBLE CAUSE	CAUSE/ REMEDY (SEE INDEX)
ENGINE MISSES OR LACKS POWER	*Shift to a lower gear or reduce load* *Remove and clean Tank; replace Fuel Filter* *Remove and clean Air Cleaner* *Make necessary carburetor adjustments* *Clean Air Screen* *Replace Spark Plugs* *Add or change oil* *Check Spark Plugs and check for any loose wires* *Major Engine overhaul Check Valve Lash* *Drain Gas Tank and Carburetor and refill*
ENGINE OVERHEATS	*Clean Air Screen* *Add or change oil* *Clean Engine Cooling Fins* *Remove and clean Muffler or replace* *Remove and clean Air Filter* *Use fresh fuel and adjust Carburetor*
NO LIGHTS	*Check Fuse, Switch and Wire Connections* *Replace Headlight Bulbs*
INDICATOR LIGHTS LIT	*"Check Oil": Check Oil Level* *Check Oil Pump.* *Oil could be too light or diluted.* *"Battery Discharging": Move throttle control to fast positon.* *"Depress Foot Pedal": Push clutch/brake pedal into brake position* *"Disengage Attachment": Move attachment clutch switch to "Disengaged" position*
UNSATISFACTORY MOWER PERFORMANCE UNEVEN DISTRIBUTION OF CLIPPINGS	***Check air pressure in tires*** ***Check front to rear and side to side mower adjustment*** ***Use a slower ground speed*** ***Replace mower blades*** ***Reinstall mower blades with top of blades up*** ***Re-adjust mower drive belt*** ***Clean underside of mower deck*** ***Sharpen blades***
MOWER BLADES WILL NOT ROTATE	***Install new Mower Drive Belt*** ***Reinstall Mower Drive Belt*** ***Replace Attachment Clutch Switch*** ***Replace Frozen Mandrel*** ***Replace Frozen Pulley***
EXCESSIVE MOWER VIBRATION	***Replace Bent or Unbalanced Blade*** ***Replace Mandrel, Straighten Deck or replace***
WIND ROWING STRIPPING OR DROPPING OF GRASS CLIPPINGS	***Let grass dry out*** ***Clean underside of Mower Deck*** ***Level Mower*** ***Replace Blades***
UNEVEN CUT OR SCALPING	***Level Mower*** ***Adjust Guage Wheels*** ***Replace Blades***
WON'T CHARGE	*Check for Fuse fault and replace* *Replace Battery* *Replace Regulator* *Replace Alternator*
OPERATOR PRESENCE SYSTEM WILL NOT SHUT DOWN ENGINE WHEN OPERATOR LEAVES SEAT NOTE: THIS TRACTOR IS EQUIPPED WITH AN OPERATOR PRESENCE SENSING SYSTEM. ANY ATTEMPT BY THE OPERATOR TO LEAVE THE SEAT WITH THE ENGINE RUNNING AND THE ATTACHMENT CLUTCH ENGAGED WILL SHUT DOWN THE ENGINE.	*Engage Attachment Clutch* *Check All Wire Connections* *Check Seat Switch* *Check Operator Presence Relay* *Check PTO Switch*

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